New York Shipbuilding Corporation

A RECORD OF SHIPS BUILT

U.S. SUPERDREADNOUGHT IDAHO

TWENTY-FIVE per cent of the first line battleships and forty-three per cent of the second line battleships in commission in the United States Navy on July 1, 1921, were built by New York Shipbuilding Corporation, in addition to various other warships. U.S.S. *Idaho*, ranking as the most powerful type when she was delivered by the yard in March, 1919, is a notable example of the great line of fighting ships built and under construction at this plant. In the manoeuvres of the Pacific Fleet in the spring of 1920, the *Idaho* added to "Gunning and Engineering Supremacy" the speed record for the battleships of the fleet, averaging 21.6 knots. The *Idaho* has a displacement of 34,759 tons.

New York Shipbuilding Corporation

A RECORD OF SHIPS BUILT

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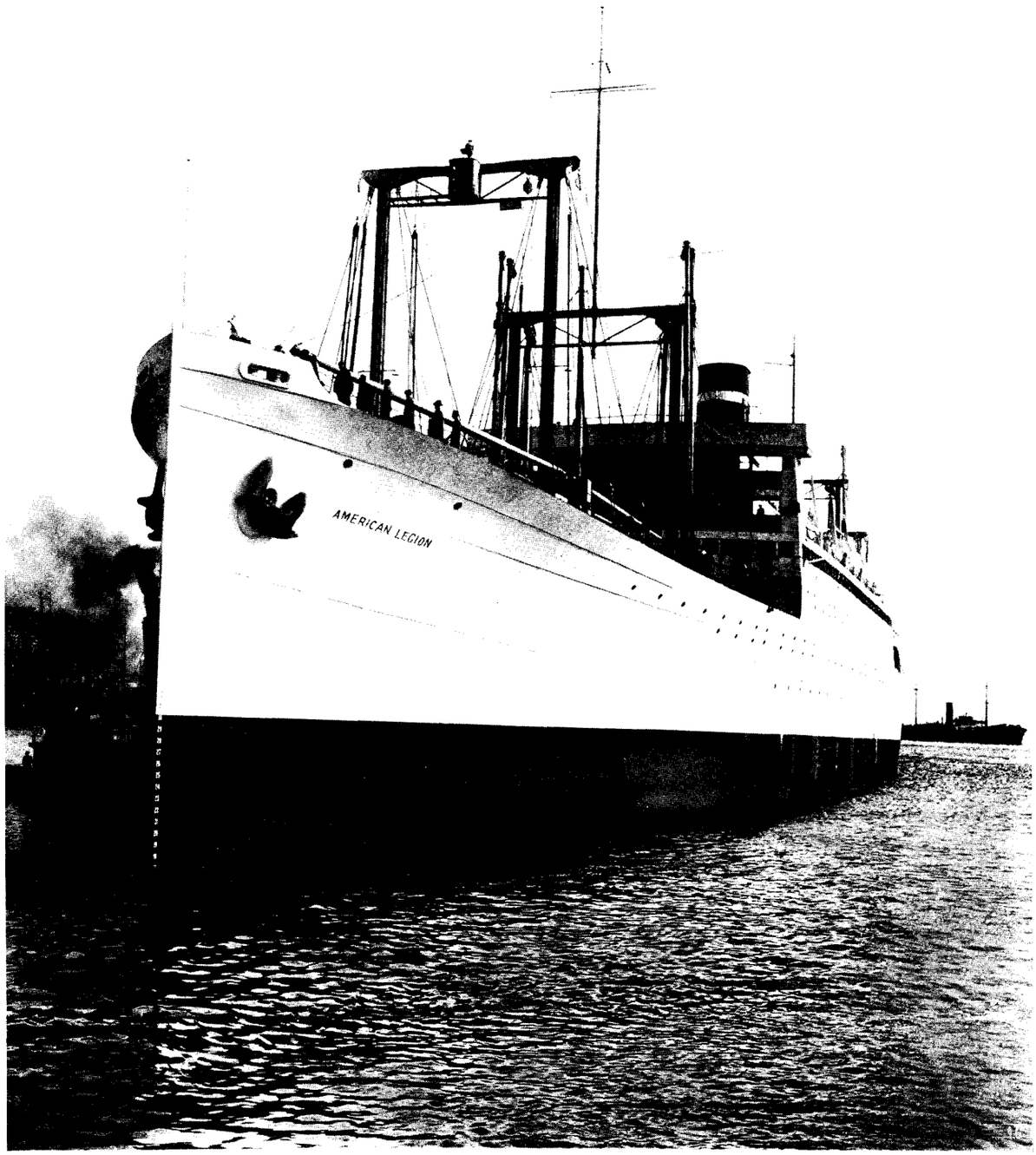
1921

Executive Offices: 120 Broadway, New York City

General Office and Works: Camden, New Jersey



U.S.S.B. AMERICAN LEGION

SEVENTY per cent of the entire fleet of passenger liners under construction for the Shipping Board were ordered from New York Shipbuilding Corporation which is building nine of the sixteen 535-foot class and has completed all seven of the 522-foot class. The first four of these liners to be delivered are the product of this yard. Fourth of the 535-foot class to be delivered, the *American Legion*, is a twin-screw, oil-burning vessel of 21,425 tons displacement and has accommodations for 280 first class passengers and 194 third class. The liners of this group have a sea speed of 17½ knots.

no 1

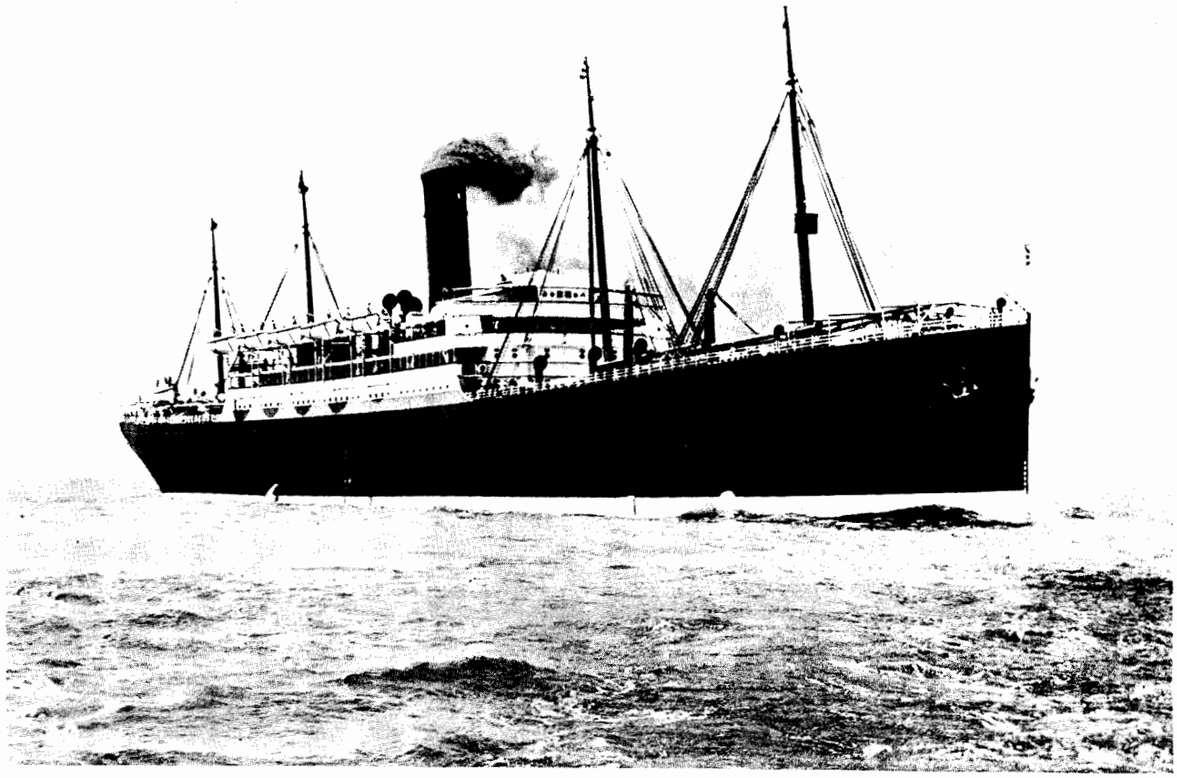
New York Shipbuilding Corporation

RAFTSMANSHIP, developed through years of steadfast adherence to the highest standards of character, is reflected in the performance of the ships built by New York Shipbuilding Corporation. Their service, the diversity of experience gained in the construction of every type of vessel, and the firm foundation of sound shipbuilding methods and unequalled plant facilities measure the achievements of this great shipyard during the twenty-one years of its existence. They give assurance that these standards will be maintained in the ships still to be built.

This spirit of craftsmanship, extending throughout the great body of shipbuilders in the scores of trades and crafts that make up the manpower of this organization, is the answer to the inflexible demand that every ship built here shall be as well built as human skill and mechanical equipment can achieve. To the men who operate these ships their character means the one dominant factor: economy of operation. Measure this economy in any of its phases—fuel consumption, repairs, turn-around, obsolescence, adaptability, the prestige of character and service. In all of these the products of New York Shipbuilding Corporation have time and again demonstrated their inherent worth.

During the fifteen years preceding war-time activity "New York Ship" developed a well rounded and capable organization. Upon this organization the Government in its war program laid the heaviest demands of production and of plant enlargement. From this period the yard emerged trebled in size, even more capable from the experience gained in added work done, yet without a lowering of its ideal of quality. This great plant is now contributing to the construction of ships for peace-time requirements, the best features, the most comprehensive knowledge both of quantity and of specialized production. It is a specialist, not in one type of ship but in all types.

Consider these different types of ships, the facilities afforded for their construction, the craftsmanship gained and maintained in their design and production. Passenger liners, tankers, colliers, superdreadnoughts, destroyers; general cargo vessels, coastwise and river steamers; lightships, revenue cutters, fire boats, carfloats—from the smallest to the mightiest vessel. Each type has contributed its share to the complete experience of the yard; each repetition of the same type has strengthened this skill through increased knowledge of the requirements.



S.S. MONGOLIA

ORIGINALLY laid down for the Atlantic Transport Company, S.S. *Mongolia* and *Manchuria*, 26,820 displacement tons, were completed in 1904 for the Pacific Mail Steamship Company. In the transpacific service of the latter company for eleven years these two vessels established a remarkable record for consistent service. This record was further strengthened by their transatlantic achievements following their sale in 1915 to the International Mercantile Marine Company. To the *Mongolia* fell the honor of firing the first shot after the entry of the United States into the war. In service as a transport during the latter part of the war, S.S. *Manchuria* in ten eastbound and thirteen westbound trips carried 49,460 troops and S.S. *Mongolia* 33,574 in about the same number of trips. These vessels have established the New York-Hamburg Service of the American Line, which includes a stop at Vigo, Spain, on the return passage for immigrant traffic.

Sister ships, they are 616 feet long and 65 feet in beam, with a passenger capacity of 346 first class, 66 second class and 1,300 third class. Their speed is 16 knots. These were the first passenger ships built by the yard, and by their excellent record they have established the position of New York Shipbuilding Corporation as a builder of passenger ships of the highest character.

Passenger-and-Cargo Vessels

THREE hundred and thirty-one thousand tons of passenger liners, the greatest tonnage of this type ever under construction at one time in one yard. This group of ships, comprising nine of the sixteen 535-foot class and all seven of the 522-foot class of passenger-and-cargo liners ordered by the United States Shipping Board, is convincing evidence of the capacity of New York Shipbuilding Corporation for such highly specialized production. Now nearing completion and under allocation for services to Europe, South America and the Orient, these vessels constitute a welcome addition to the facilities of the American Merchant Marine. That it has been the privilege of New York Ship to contribute such a large proportion of the total number of these vessels is but the logical sequence to the experience of the yard and to its expanded facilities for the construction of passenger-carrying ships.

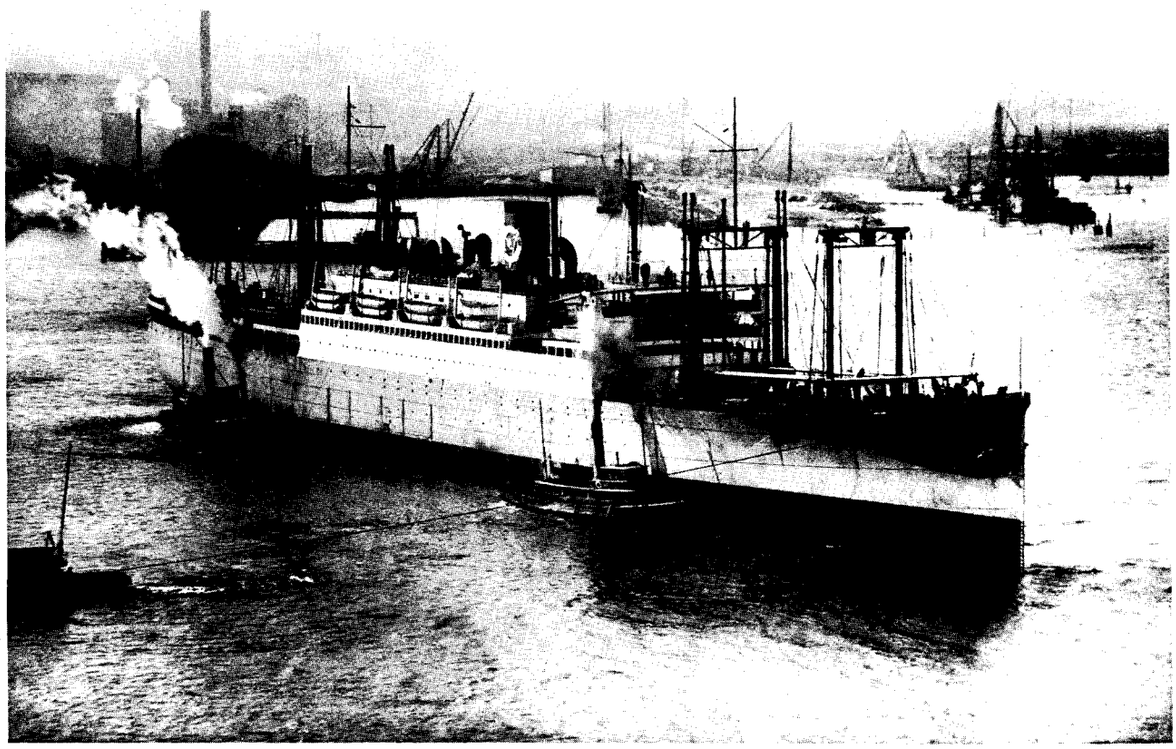
For just as this yard has become a specialist in every type of commercial and naval vessel through diversified production in quantity, so is the yard strong in each of the factors that go to make up a modern ship. Design, steelwork, the building of boilers and engines, their installation and the myriad details of outfitting—every link is strong in the chain that comprises the finished ship.

The construction of passenger liners calls for this well-rounded ability, this completeness of yard and shop facilities. Where, for example, the outfitting of cargo carriers stops with provisions for the bare necessities of officers' quarters, the interior fitting and finishing of a passenger ship require a high degree of artistic appreciation, a completeness of joiner shop and decorative facilities capable of executing the most elaborate details of interior furnishing.

The New York Ship plant was designed primarily for the building of large passenger-carrying vessels. Provided with this completeness of facilities, it had already gained, before the war, an enviable reputation for the construction of this class of tonnage. Such splendid examples as S. S. *Mongolia* and *Manchuria*, 26,820 displacement tons, were among the first ships built. And though, in the ten years that followed, there were but few new additions to the passenger-carrying capacity of the American Merchant Marine, New York Ship contributed its share of the smaller passenger ships for coastwise service, such as S.S. *Ontario*, *Suwanee* and *Somerset*, built for Merchants & Miners Transportation Company, and S. S. *Congress*, *President* and *Governor* for what is now the Pacific Steamship Company.

The steamers of the combined passenger-and-cargo type built or under construction at this yard number twenty-eight, with an aggregate displacement tonnage of 456,376 and a passenger-carrying capacity totaling 11,712. Representative examples of the different classes of ships in this group are shown here, together with photographs of interior workmanship. In addition, there is under construction for the Munson Steamship Company a vessel of 10,150 displacement tons with a length of 432 feet and accommodations for 292 passengers. In the excellence of workmanship and the completeness and beauty of her interior decorations and outfitting, this new liner will be second to none. It is interesting to note that this is the only passenger liner now (August 1, 1921) under construction in this country for private account.

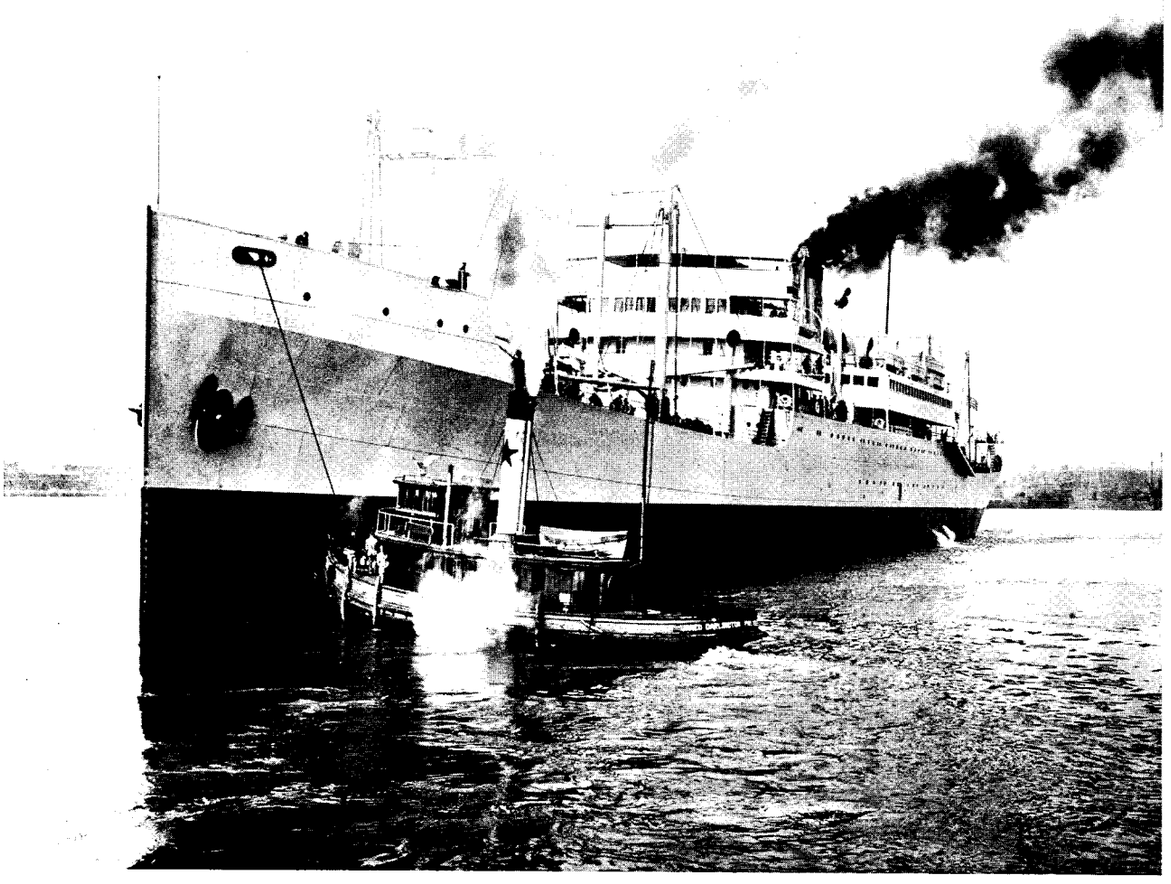
Where the war meant manufacture of ships simplified in design for quantity production to answer the incessant cry for more cargo-carrying tonnage, peace conditions mean the return to the refinement of design and detail of construction in the building of specialized ships. To the stable old-line yards there have been added, from the multitude of war-time plants, a few whose organization, equipment and character of product entitle them to permanent places in our national shipbuilding capacity. But of all these yards, old and new, that will continue, New York Ship stands out preëminent by virtue of the dominant quality of its ships, the magnitude and diversification of its plant and experience, the pride and tradition of its personnel.



U.S.S.B. KEYSTONE STATE

STARTED as Army transports, later altered in their plans to Navy transports and then to hospital ships, and finally completed as express passenger-and-cargo liners, the original design of the 535-foot type, of which nine were ordered by the Shipping Board from New York Ship, was developed by a special commission created during the war to focus the best obtainable experience on the problem of providing suitable tonnage for transporting American forces through the submarine zone. To this end the ships were made sufficiently large to ferry an entire regiment and all its equipment on a single trip. They were given a speed of 17½ knots, since British Admiralty records showed that no ship doing seventeen knots or better had been torpedoed, and, for further safety, they were divided into fourteen watertight compartments, any three of which could be damaged without sinking the vessel.

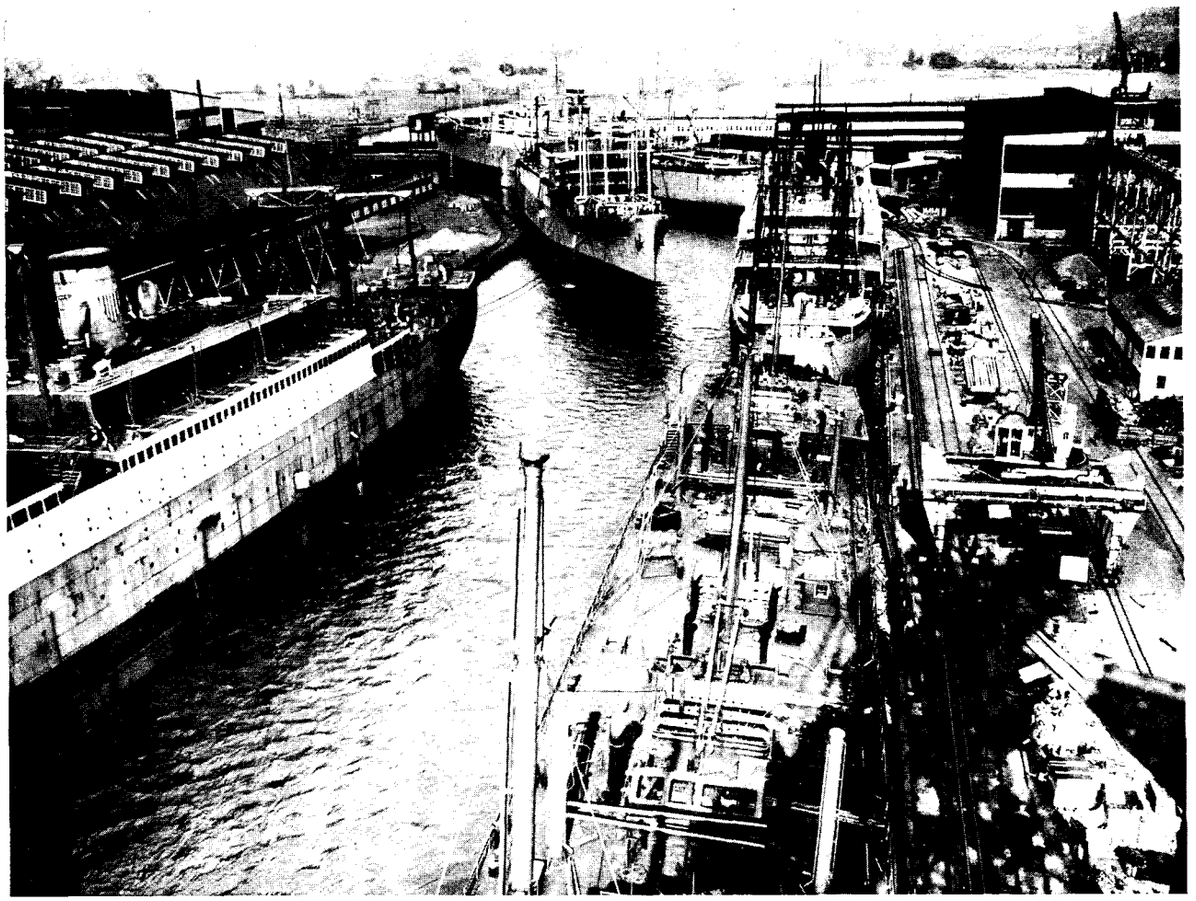
With the end of the war emergency, it was decided to complete these ships as passenger liners, and the necessary changes were made by the Government and carried out by the builders, the changes affecting the engine room auxiliary machinery as well as the interior fitting out and decorations. These first changes have been followed by a series of other changes initiated by the Shipping Board or approved by it after initiation by the operators to whom the various liners have been assigned. The original size, speed and reserve buoyancy have been retained in all the vessels, however.



U.S.S.B. CENTENNIAL STATE

DETERMINING the design of the additional group of seven 522-foot liners ordered by the Government at about the same time as the "535's," was the fact that existing demands had nearly filled to capacity even the enlarged facilities of the yard, and only a group of four single ways was available for this new construction. It was a question of building "as much boat as possible" on these ways, and in the shortest possible time. Under these limiting conditions plans were drawn up by New York Ship, and approved by the Shipping Board with but a few changes, and the work of construction was immediately started. Converted after the Armistice from troop-ships to passenger liners, the building of these vessels was pushed steadily forward, with the result that the first four liners to be delivered to the Shipping Board from any shipyard were all New York Ship products of this 522-foot class.

Although of slower speed and more limited passenger accommodations, these "522's" are finished with the same spaciousness and nicety of detail as are the "535's," and at the same time offer greater capacity for the carrying of express freight. Two of them have been in operation in the North Atlantic since the fall of 1920, and three others have maintained a regular schedule in the Manila-East India Service of Pacific Mail Steamship Company since last spring. In both oceans they have established themselves as boats popular with both travelers and shippers.



PASSENGER LINERS IN OUTFITTING BASIN

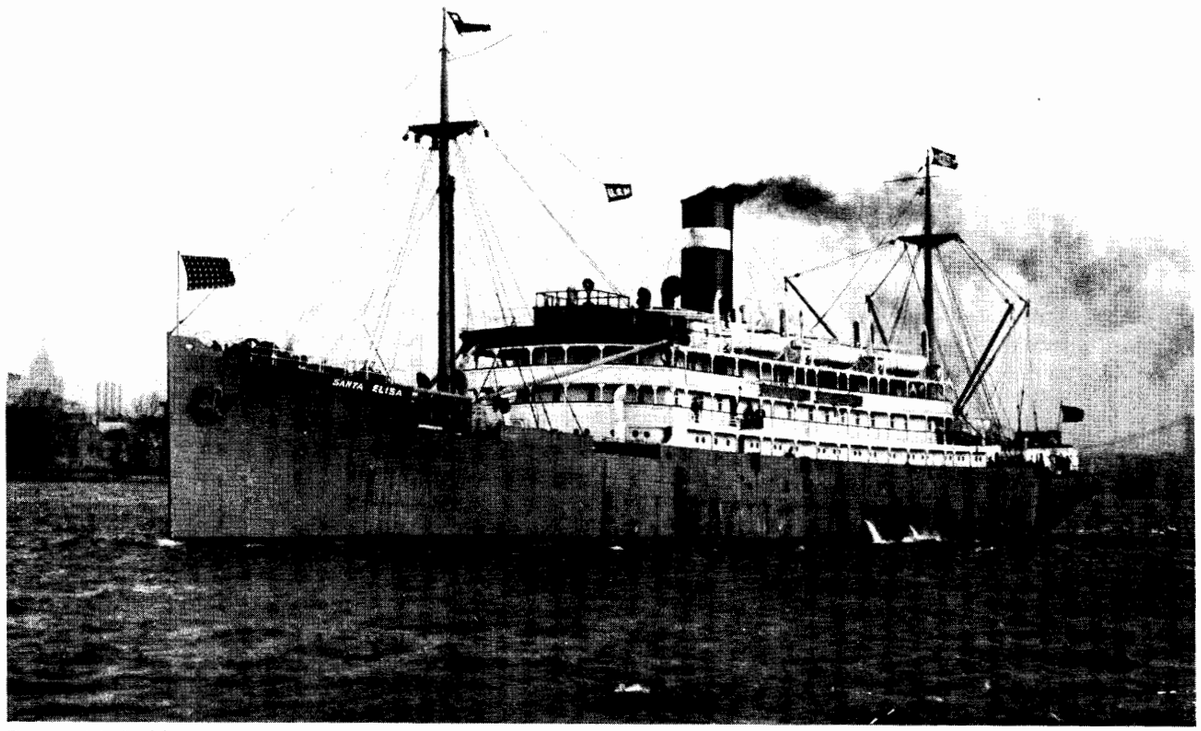
OF THE sixteen Shipping Board passenger liners under construction here, four of the "535's" and all seven of the "522's" had been delivered by August 1, 1921. The balance are scheduled for completion before the end of the year. Both classes are oil burning, with a large cruising radius, and their unusually complete cargo handling facilities enable quick turn-arounds in port. Following is a comparison of the principal dimensions, and the capacities as originally designed, of the two classes:

	535-foot Class	*522-foot Class*
Beam	72 feet	62 feet
Depth	50 feet	42 feet
Draft	30 ft. 6 in.	32 ft. 3 in.
Displacement	21,167 tons	21,400 tons
Deadweight	11,500 tons	13,000 tons
Gross	14,100 tons	10,500 tons
Passenger Capacity (See note)		
First Class	260 persons	80 persons
Third Class	300 persons	(None)
Speed	17½ knots	14 knots

NOTE: The Southern Cross and American Legion have been provided with increased first class passenger capacity. Third class accommodations have been provided in two of the 522-foot class after delivery by the builders.

Of the "535's," three vessels are equipped with two sets of Westinghouse-De Laval double reduction turbines of 12,000 S.H.P. and six have Bethlehem Curtis turbines and Falk gears. All seven of the "522's" have two four-cylinder triple expansion engines of 7,000 I.H.P. The cruising radius of the first three "535's" is 11,500 miles; of the next six, 13,500 miles; and of the "522's" it is 15,000 miles. The names of these ships are:

535-foot Class		*522-foot Class*	
Wenatchee	Keystone State	Old North State	Wolverine State
Southern Cross	Empire State	Creole State	Centennial State
American Legion	Lone Star State	Granite State	Blue Hen State
Bay State	Hoosier State		Panhandle State
	Peninsular State		

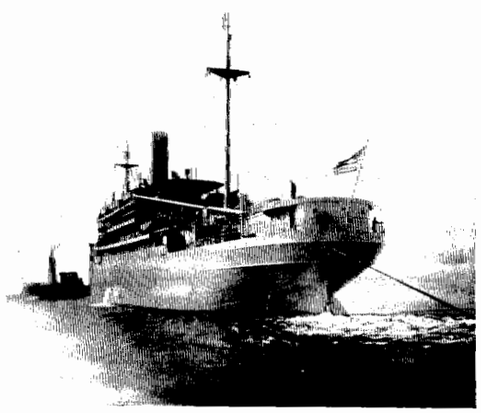


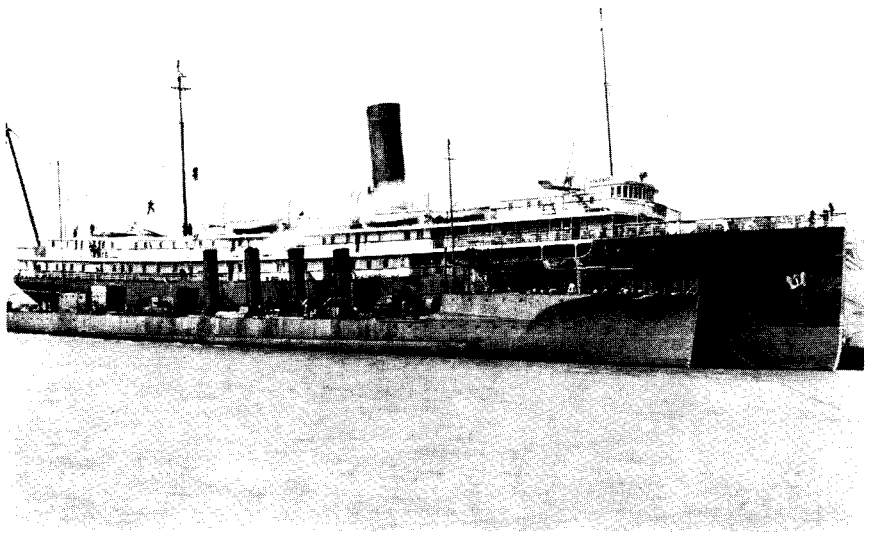
Photograph by Levick

S.S. SANTA ELISA

THIS passenger-and-cargo vessel, and another of the same type, S.S. *Santa Leonora*, contracted for by W. R. Grace & Co., were commandeered on the ways and delivered for government service in 1919, equipped as troop transports. After service in the return of troops to this country, these ships were refitted as passenger vessels. S.S. *Santa Elisa* is now in the West Coast Service of the Grace Line, Inc., and S.S. *Santa Leonora* is in the service of the United Fruit Company. They have accommodations for 101 first class passengers and a cargo capacity of 3,000 tons.

S.S. *Santa Elisa* and *Santa Leonora* are 373 feet long, with a beam of 51 feet, a depth of 34 feet and a draft of 25 feet. Oil burning, with a cruising radius of 8,800 nautical miles, they develop a 13-knot speed, propelled by single four-cylinder quadruple expansion engines.





S.S. SUWANEE
(Now S.S. *City of Athens*)

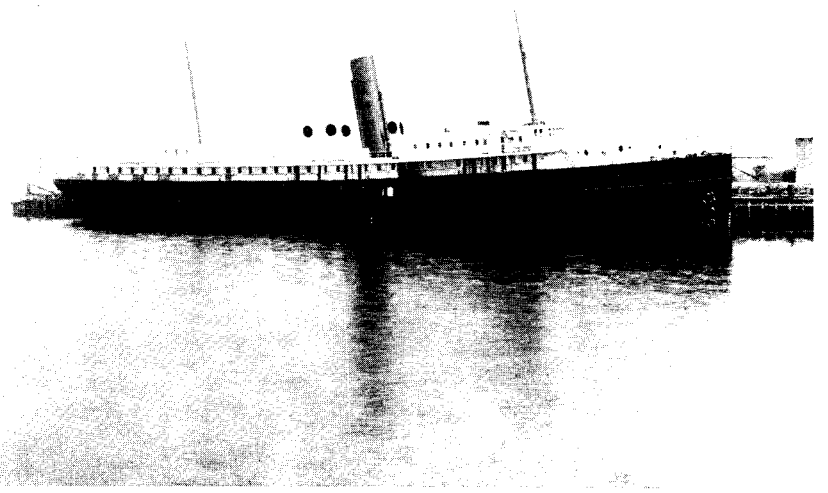
Displacement	5,183 tons
Length	331 feet
Beam	46 "
Depth	30 "
Draft	18 "
I. H. P.	2,550
Speed	13 knots

Passenger capacity 170
Built in 1911
Sister ship: *Somerset*, now *City of Savannah*
U.S.T.B.D. *Ammen* alongside

S.S. ONTARIO

Displacement	4,095 tons
Length	315 feet
Beam	42 "
Depth	33 "
Draft	18 "
I. H. P.	3,426
Speed	14.6 knots

Passenger capacity 162
Built in 1904



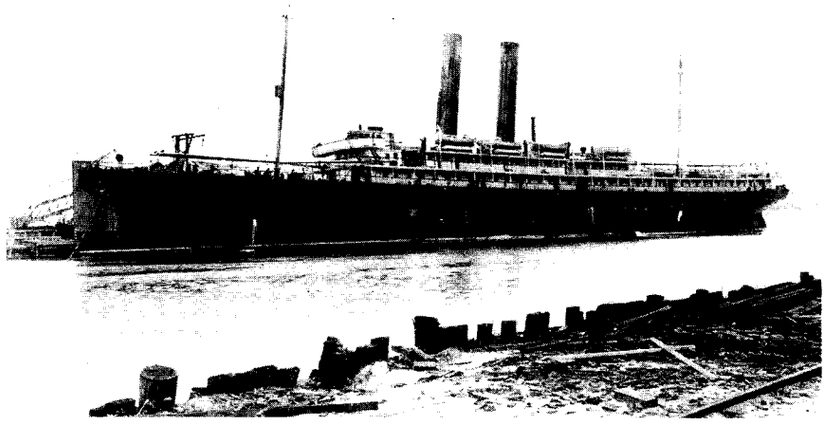
OF THE two smaller passenger-carrying vessels shown here, S.S. *Suwanee*, sold by the Merchants & Miners Transportation Company to the Ocean Steamship Company and renamed *City of Athens*, has had a successful record in the Atlantic Coastwise service. Another of the earlier coastwise vessels built at New York Ship is S.S. *Ontario* in the service of the Merchants & Miners Transportation Company since 1904.

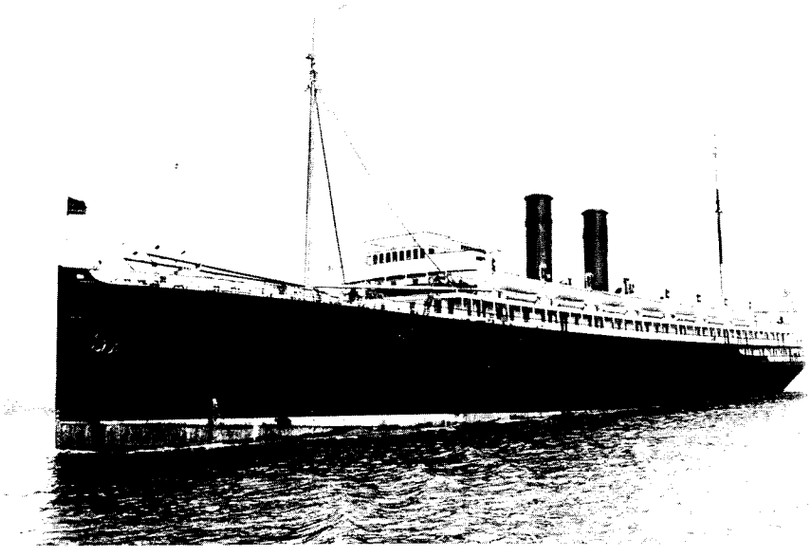
S.S. CONGRESS

Displacement	10,460 tons
Length	423 feet
Beam	55 "
Depth	38 "
Draft	24 "
I. H. P.	6,978
Speed	16½ knots

Passenger capacity 617

Built in 1913





S.S. GOVERNOR

Displacement	7,672 tons
Length	417 feet
Beam	48 "
Depth	37 "
Draft	22 "
I. H. P.	4,993
Speed	15½ knots

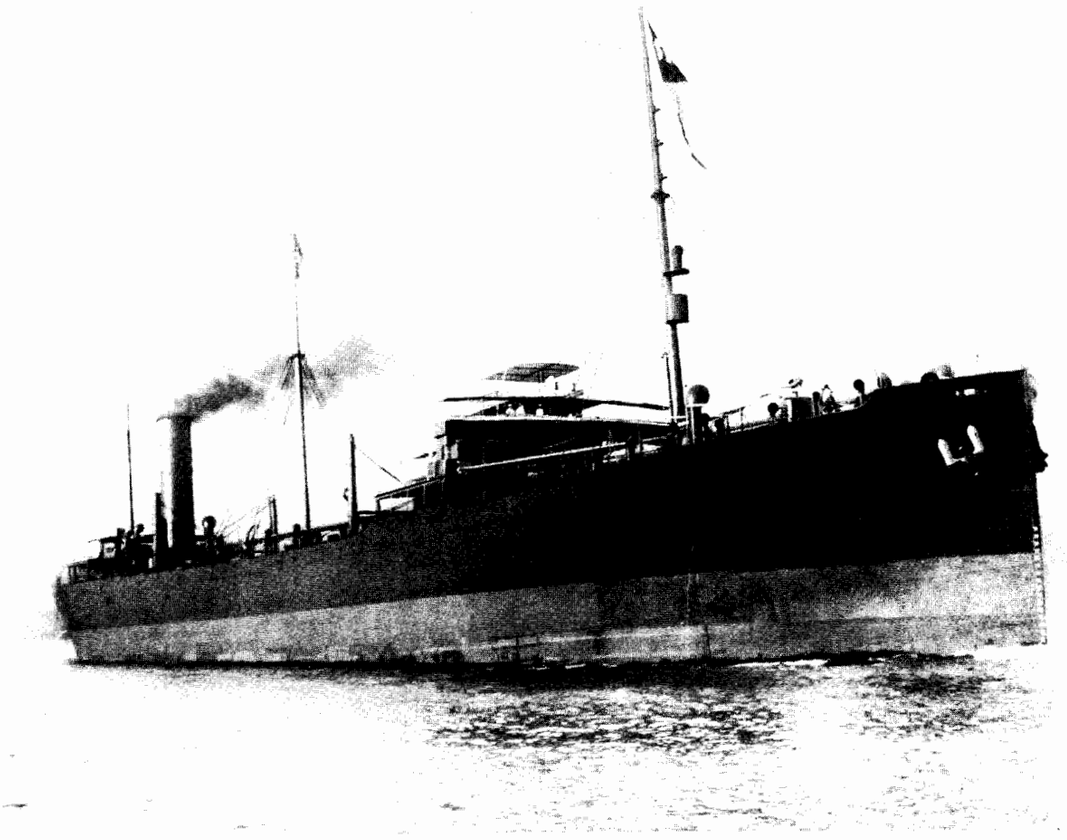
Passenger capacity 566

Built in 1907

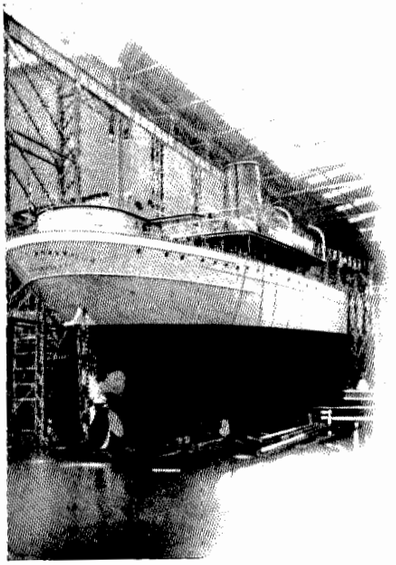
Sister ship:

S.S. *President*

S.S. *Governor*, sister ship of S.S. *President*, was in the service of the Pacific Coast Steamship Company from its completion in 1907 until April 1, 1921, when it was sunk as the result of a collision with U.S.S.B. *West Hartland*. S.S. *Congress*, also formerly in the service of the Pacific Coast Steamship Company, burned to the waterline, was reconstructed and is now in the transpacific trade of the China Mail S. S. Co.



S.S. STANDARD ARROW



REPRESENTATIVE of a group of twelve tankers of 12,500 deadweight tons, S.S. *Standard Arrow* and seven others already delivered have established the effectiveness of this design for general service demands and confirmed the skill of New York Ship in the construction of bulk oil carriers. This group includes also the *Royal Arrow*, *Sylvan Arrow* and *Broad Arrow* in the service of the Standard Transportation Company, and the *Dixie Arrow*, *Yankee Arrow*, *Empire Arrow* and *Levant Arrow*, under construction for the same fleet; and S.S. *Edw. L. Doheny, Jr.*, *Gulf of Mexico*, *E. L. Doheny III*, and *Nora* of this same design.

This class has a length of 485 feet, beam 62 feet, depth 39 feet and draft 27 feet. The hull is built on the Isherwood system. Equipped for either coal or oil, their four-cylinder, triple-expansion engines develop 3,200 I.H.P. and a sea speed of eleven knots.

Tank Steamers

BALANCE of skill and coordination of equipment throughout all phases of ship construction identify the capacity of New York Shipbuilding Corporation for the production of any type of vessel. Design, steel work, the building of boilers and engines, the details of outfitting, shop and shipway facilities—every factor that contributes to the finished ship is strong. To overemphasize any one of these factors would, in effect, deny the importance of the others. To some, however, the character of the steel work in ships built here has the appeal of staunch, permanent construction. To others, the thoroughness and skill with which the yard builds its engines and boilers carries New York Ship vessels in their minds as examples of the most efficient ship construction, low in costs of operation and maintenance, and reliable in continuity and persistence of service.

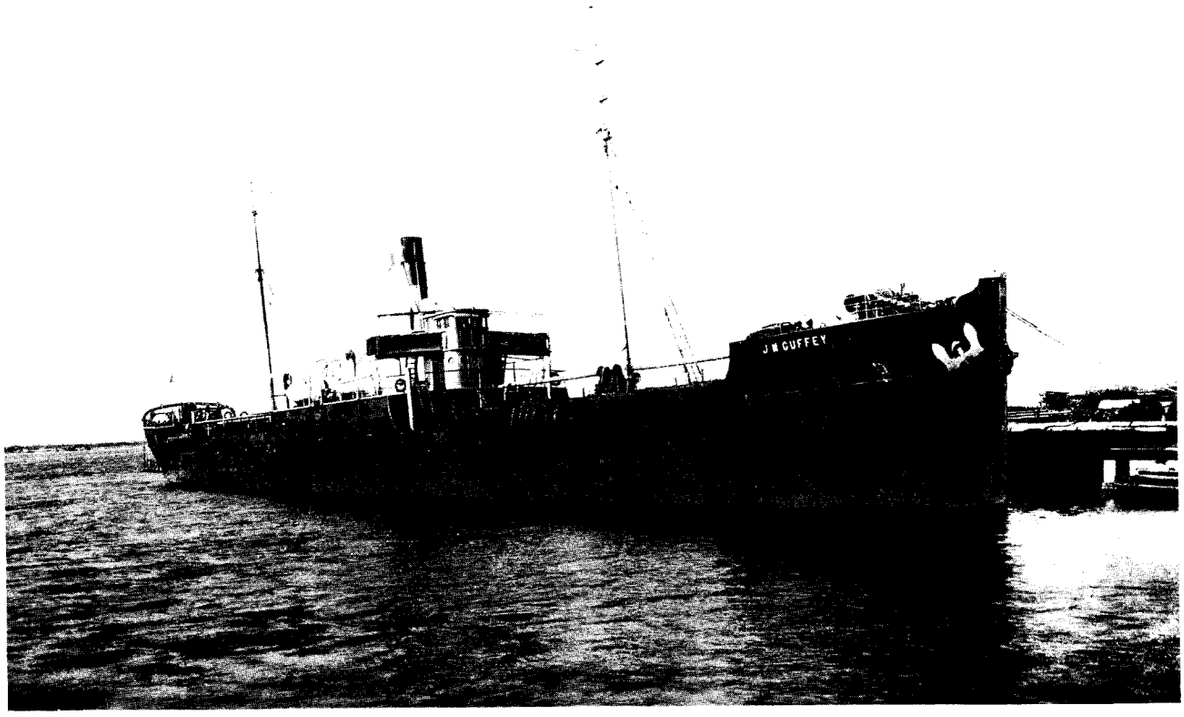
Among the different types of ships in which this yard has attained the success which results from specialization and extensive experience, the oil tank ship stands out as a consistent and recurrent achievement in ship construction. In the demand which this specialized type of ship makes on its builders for thoroughness in steel work, for staunch construction, New York Shipbuilding Corporation has developed and maintained a craftsmanship second to none. For to the ability required for the usual problems of ship construction, unusual skill is demanded in the building of a tanker to produce a hull not only watertight but oiltight, possessing great bulkhead and longitudinal strength and intricate piping installation and pumping plant.

The first vessel built at this yard was a tanker, the *J. M. Guffey*. For nineteen years this ship has seen continuous and satisfactory service and is still rated as a most efficient, though small, carrier of oil. She was the forerunner of a great fleet of tankers which have since been built or which are now under construction at this yard. This fleet comprises thirty-one vessels ranging in size from the 3,600 tons of the *J. M. Guffey* to the 14,400 tons of S.S. *Nora*, recently delivered to W. R. Grace & Co. Two and one half miles of tankers, thirty-one in all, aggregating 287,533 deadweight tons, and eight oil barges totaling an additional 10,524 deadweight tons, represent a total carrying capacity of 87 million gallons of oil. Such a contribution to the tank ship capacity of the country cannot fail in the prominence of its achievement.

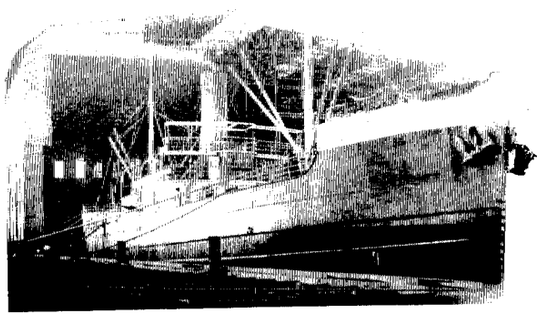
These thirty-one tankers are of seven classes. Of them, the six of the *Gulf Oil* class, and the twelve of the *Standard Arrow* class, especially, are widely known and admired. The former class are of 7,310 deadweight tons and 407-foot length, of which six were built for the Gulf Refining Company, together with two others of somewhat greater capacity, during the years 1912 to 1919. The other and larger type is of the 485-foot class, of which eleven have a deadweight tonnage of 12,500, and one, the *Nora*, a tonnage of 14,400. Of the twelve tankers of this group eight have been built or are under construction for the *Arrow* fleet of the Standard Transportation Company.

The other types include two of 4,760 deadweight tons and one of 8,260 tons for the J. M. Guffey Petroleum Company, four of 5,125 tons for the Standard Oil Company, and five of a 9,670 tons of which the Gulf Refining Company, United Fruit Company and Pacific Mail Steamship Company each have one, and the other two are under construction. A combination oil and coal supply ship under construction for the Imperial Japanese Navy is described on page twenty-five.

New York Ship takes a justifiable pride in the success which it has met with in the construction of these tankers, representing the highest type of cargo vessel and one requiring the best possible workmanship. It is proud to have gained the reputation which it holds for building the best tank steamers in the world.

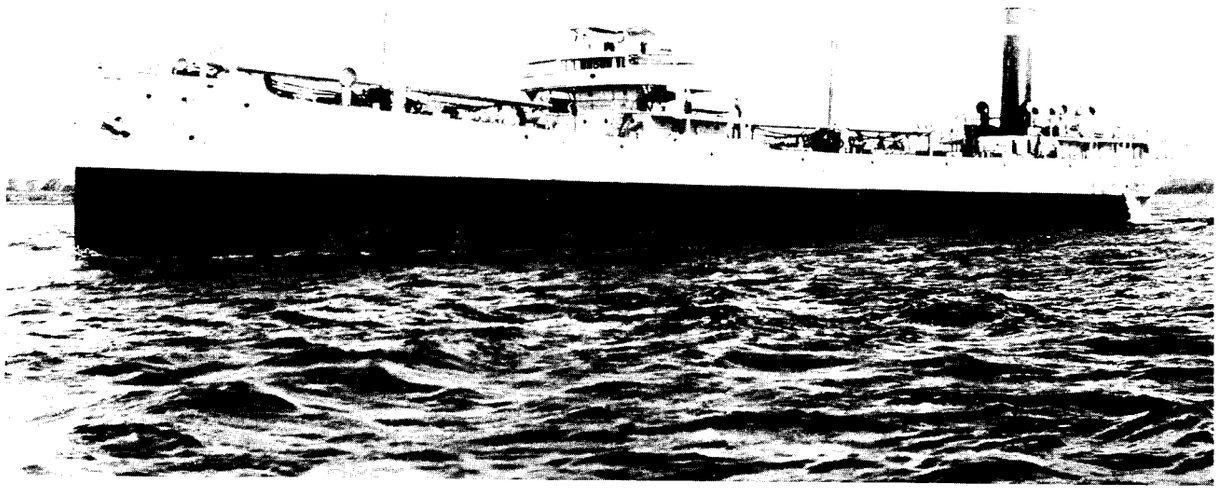


S.S. J. M. GUFFEY



THIS ship was launched as the freighter *M. S. Dollar*, the first New York Ship contract, but was completed as a tanker and renamed *J. M. Guffey*. She was later sold by the J. M. Guffey Petroleum Company to the Gulf Refining Company. The picture above was taken after fourteen years of service, upon her return to the yard for overhauling.

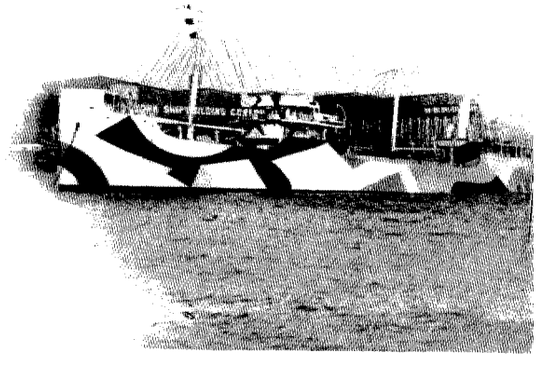
The *J. M. Guffey* is the smallest tanker built here, having a deadweight capacity of 3,603 tons, with a length of 310 feet, beam of 40 feet, draft of 21 feet, and speed of 10 knots.

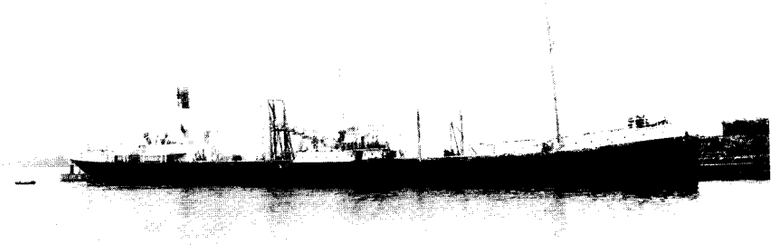


S.S. NORA

CONTRASTED with the *J. M. Guffey*, S.S. *Nora*, one of the most recent oil carriers to be delivered, has the largest capacity of any of the great fleet of tankers built here, with a deadweight of 14,440 tons. Her general dimensions are, however, the same as those of the *Standard Arrow* class, but with a slightly greater draft and a speed of 10½ knots.

Delivered in October, 1920, S.S. *Nora* is owned and operated by W. R. Grace & Co., and has already demonstrated the efficiency of her design and construction.





S.S. LIGONIER

Deadweight	4,760 tons
Length	376 feet
Beam	46 "
Depth	27 "
Draft	24 "
I. H. P.	2,700
Speed	11 knots

Built in 1903

Sister ship:

S.S. *Larimer*

S.S. RAYO

Deadweight	5,125 tons
Length	343 feet
Beam	46 "
Depth	27 "
Draft	23 "
I. H. P.	1,900
Speed	10½ knots

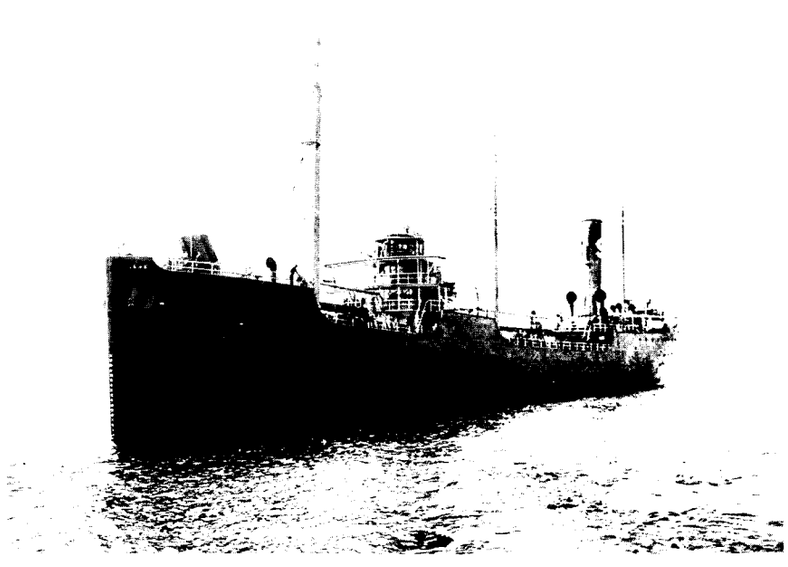
Built in 1912

Sister ships:

S.S. *El Segundo*

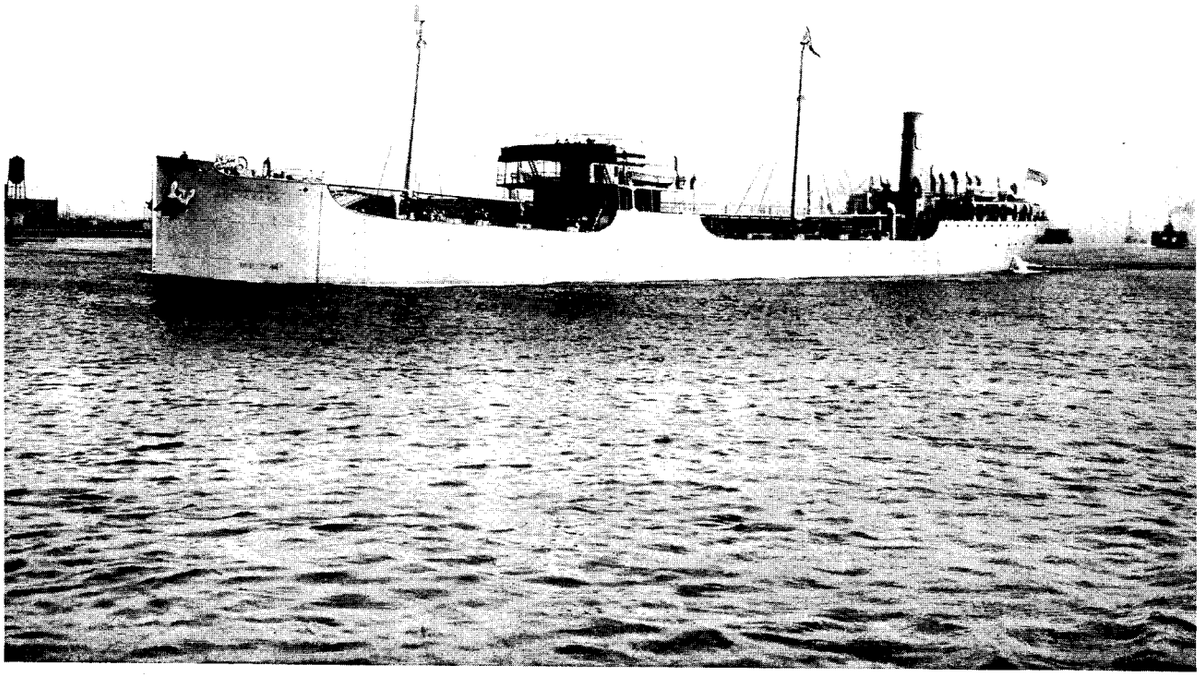
Vesta

Socony



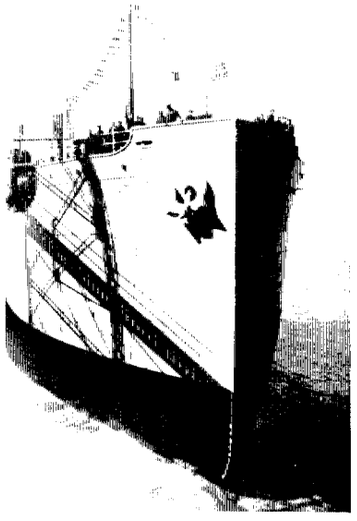
S.S. *Ligonier* and a sister ship S.S. *Larimer*, built in 1903 under contracts from the J. M. Guffey Petroleum Company, were the second and third tankers delivered from this yard. In contrast with the extensive use of the Isherwood system of framing used for the more recent tankers, these have transverse framing.

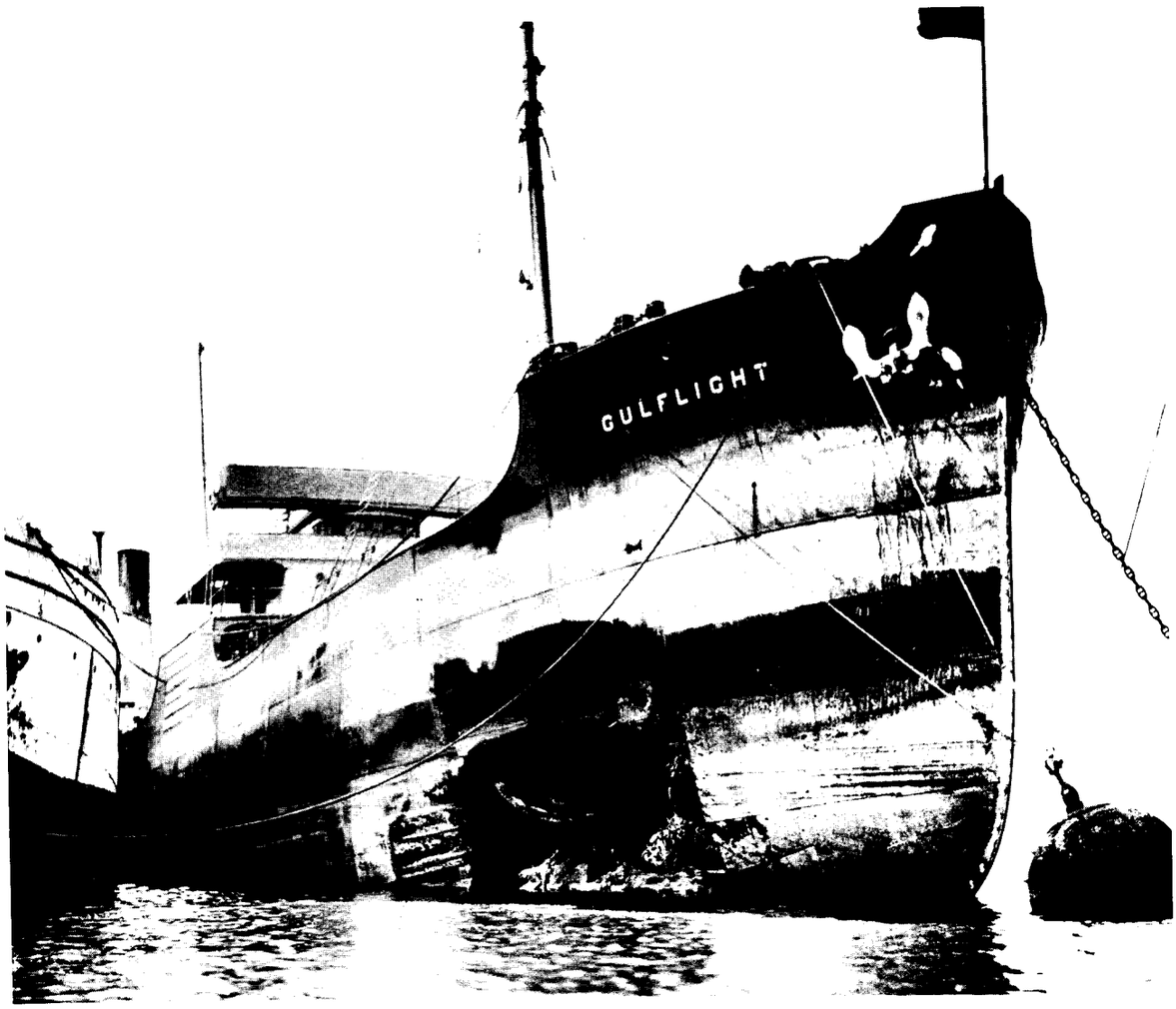
S.S. *Rayo* is representative of four sister ships, also with transverse framing, built in 1912 and 1913 for the Standard Oil Company of New York. The other three are S.S. *El Segundo*, *Vesta* and *Socony*.



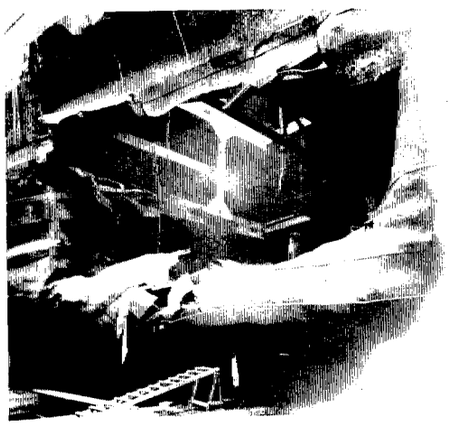
S.S. GULFQUEEN

S. S. *Gulfqueen* is representative of a 436-foot class of tanker of which four sister ships have also been built or are under construction. This same design, unusually well adapted to general oil cargo carriers, has also been followed by other shipyards. The *Gulfqueen* has a deadweight tonnage of 9,670; the other four, S.S. *Camden*, now in United Fruit Company's Service, and S.S. *Solana*, operated by Pacific Mail Steamship Company, and the two tankers still on the ways, have a capacity of 9,820 deadweight tons. They have a beam of 56 feet, depth of 33 feet and a draft of 26 feet. They are equipped for burning either coal or oil, and with engines of 3,200 I.H.P., develop a speed of eleven and a half knots.

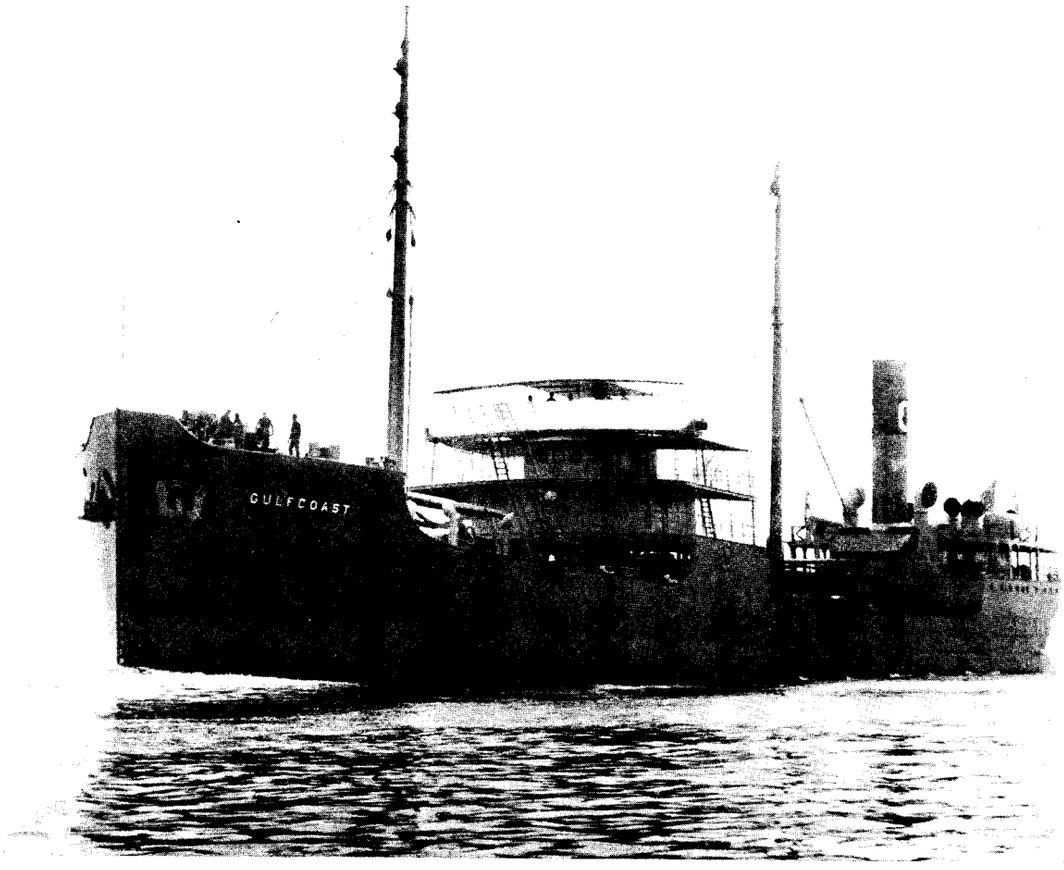




S.S. GULFLIGHT



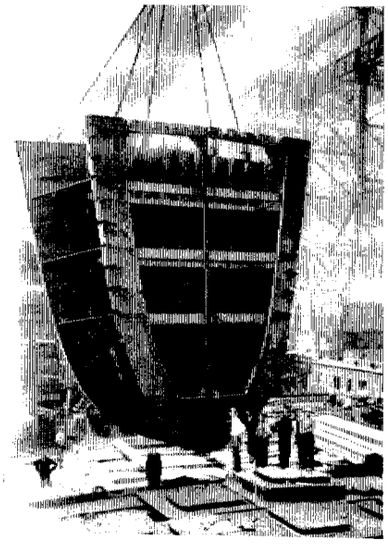
MANY of the New York Ship tankers performed notable service during the war period. Of those that traversed the dangerous areas of the North Atlantic, it will be remembered that S.S. *Gulflight* was one of the first American ships to be torpedoed before the entrance of the United States into the war. Attacked without warning in heavy weather off Bishop Rock on May 1, 1915, a huge hole was cut through her bow just abaft of the forepeak. Despite the severity of the damage and the unusual strain to which the entire vessel was subjected, her splendid workmanship asserted itself and she was able to proceed under her own steam to a safe harbor in the Scilly Islands. The *Gulflight* was fully repaired and again in service by the following August.

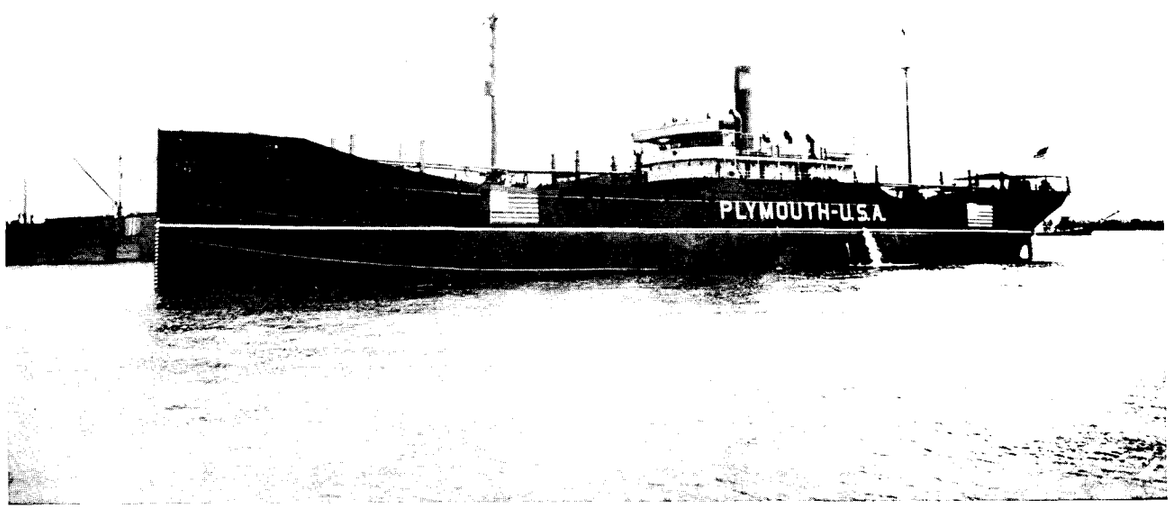


S.S. GULFCOAST

S.S. *Gulflight* and *Gulfcoast* are representative of a 7,300 deadweight tons class of tanker that has proven satisfactory in operation and economical in proportion to its speed, as evidenced by the frequent repetition of this type since the construction of the *Gulfoil* in in 1912. In all, six tankers have been built by New York Ship for the Gulf Refining Company to this design; following the *Gulfoil* these ships were S.S. *Gulflight* and *Gulfstream* in 1914, *Gulfcoast* in 1915, *Gulfmaid* in 1917 and *Gulfland* in 1918.

These bulk oil carriers are 407 feet long, with a beam of 51 feet, depth of 30 feet and draft of 23 feet. Single triple-expansion reciprocating engines developing 2,650 I.H.P. propel these ships at a speed of 11½ knots.





S.S. PLYMOUTH

DESIGNED for the Norfolk-Mediterranean trade, S.S. *Plymouth* and *Franklin*, built in 1915 for the Coastwise Transportation Company, proved to be ideally adapted for war service, in which they attained a notable record. These were the first of eight colliers of the same class, 8,742 deadweight tons, that have been built by New York Shipbuilding Corporation for the Coastwise Transportation Company and for the Darrow & Mann Co. The others of this class are S.S. *Tidewater*, built in 1907, and *Sewalls Point*, *Glen White*, *Winding Gulf* and *Wm. N. Page*, built in 1918 under original contract by Darrow & Mann Co., but commandeered for government service. S.S. *Tidewater* is now in the service of the Green Star Line and the other four are under operation by Castner, Curran & Bullitt. Another collier, S.S. *Fairmont*, was also built in 1918 for the Coastwise Transportation Company.

This class is 395 feet long, with 55-foot beam, 34 feet depth and 27 feet draft. Their engines are of 2,500 I.H.P. and their speed 10½ knots.

Colliers

THOUGH in this age we may be inclined to deny it, there persists the centuries-old and ineradicable feeling that ships are endowed with distinctive personalities; that into the mass of steel, engines, fittings, goes a character, even you may say, a soul, that makes of the ship, as she takes the water, a vibrant, living personality. And so it is. For when, as at New York Ship, there exists that spirit of craftsmanship which demands and receives of every worker the assurance of the highest character of work, this very character is woven into the structure and being of the ship; it becomes a part of her. It is the ship.

In the record of the *Tuckahoe*, familiar to the shipping world as the collier which was delivered in thirty-seven days from the laying of her keel, one senses the enthusiasm, the spirit of team-play and loyalty to the organization that went into her record-making speed of construction under imperative war-time demands. Against the doubts of those who could not conceive of good construction at such a speed of construction, S. S. *Tuckahoe* on the fortieth day following keel-laying, leaped into an unceasing round of gruelling day-in and day-out service that itself established records for quick turn-around in coastwise and transatlantic coal transportation.

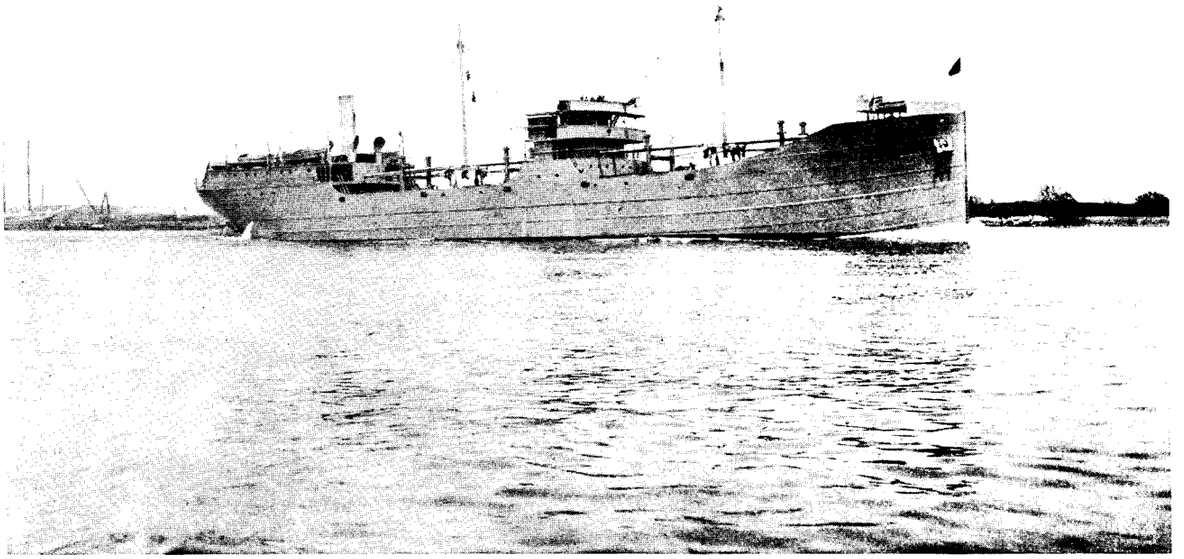
As is the *Tuckahoe*, so are the others of the great fleet of colliers built by New York Shipbuilding Corporation, examples of excellence of workmanship in the construction of this specialized type of carrier. This fleet comprises twenty-two colliers having an aggregate deadweight capacity of more than 163,000 tons.

The colliers so far built are of eight different classes, ranging from S.S. *Norfolk* of 5,395 deadweight tons, with a length of 332 feet, to S.S. *Deepwater*, with a length of 454 feet and a capacity of 12,420 tons. Fourteen of these vessels fall in two classes: six of 5,548 tons, 331 feet long and eight of 8,742 tons and a length of 395 feet. The smaller class comprises the *Virginia*, *Jonancy* and *Bylayl* built for the Coastwise Transportation Company, the *Freeman* of the Pocahontas Navigation Company, and the *Absecon* and *Tuckahoe* built for the Shipping Board. Of the 8,742-ton class, three, S.S. *Franklin*, *Plymouth* and *Fairmont*, were built for the Coastwise Transportation Company, and five, S.S. *Tidewater*, *Sewalls Point*, *Glen White*, *Winding Gulf* and *Wm. N. Page*, were ordered by Darrow & Mann Company. All of these colliers are designed to permit their going under shore loading and unloading plants. In addition, the yard has built thirteen coal barges totaling 32,227 deadweight tons.

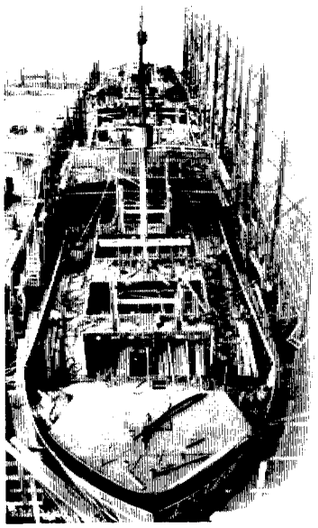
A contract for a combination oil and coal supply ship for the Japanese Navy was placed with New York Shipbuilding Corporation by the Imperial Japanese Government on May 17, 1921. This unique type of vessel, designed by New York Ship in accordance with outlined requirements laid down by the Imperial Japanese Naval Commission, has a capacity of 13,000 deadweight tons, a length on the waterline of 496 feet and a beam of 67 feet. It will be electrically driven and will have a speed of 15 knots per hour. That the first naval contract placed in many years by the Imperial Japanese Government with an American shipyard was awarded to New York Ship is an indication of the international prestige which this yard has attained.

Both in colliers and tankers the number of ships built for each of several companies is convincing evidence of the satisfaction of service well performed which produces repeated contracts. For example, a total of thirteen colliers have been built for the fleet of the Coastwise Transportation Company, and six for the Darrow & Mann Company; of the contracts for tankers, eight have been for the Gulf Refining Company, and seven for the Standard Transportation Company.

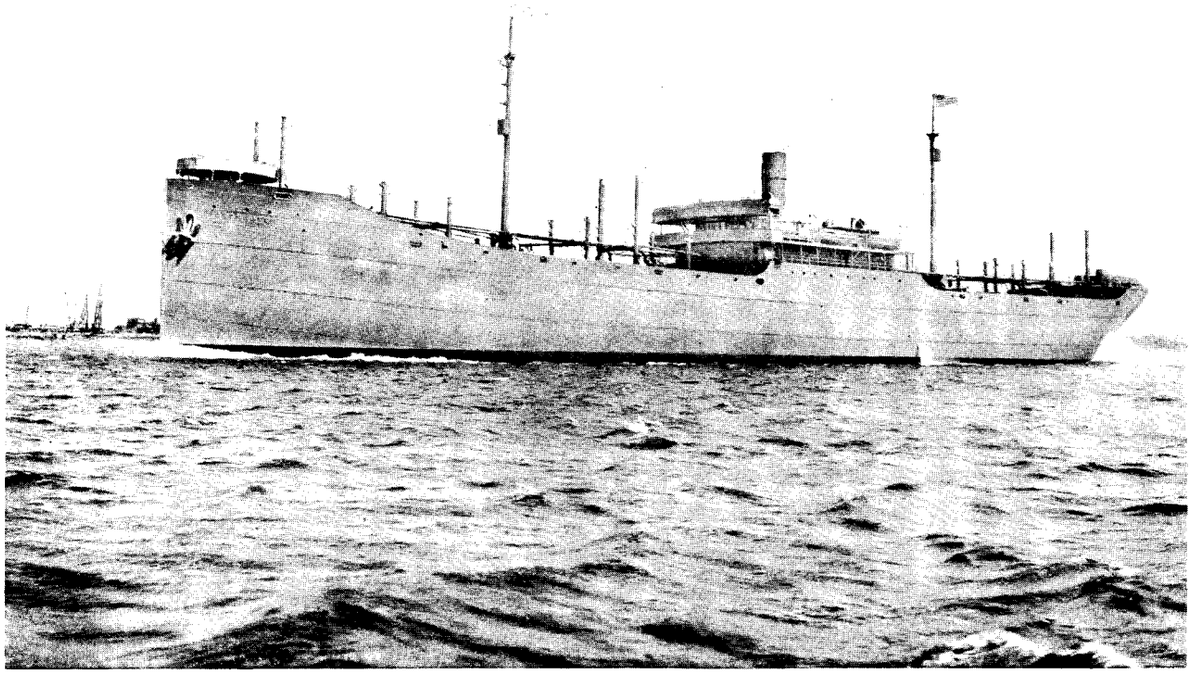
Labor plus material will make one kind of ship. Labor plus material plus the ideal of craftsmanship steadfastly applied, will create a better ship. It is of all of her ships, all "better" ships, that New York Shipbuilding Corporation is justly proud.



S.S. TUCKAHOE



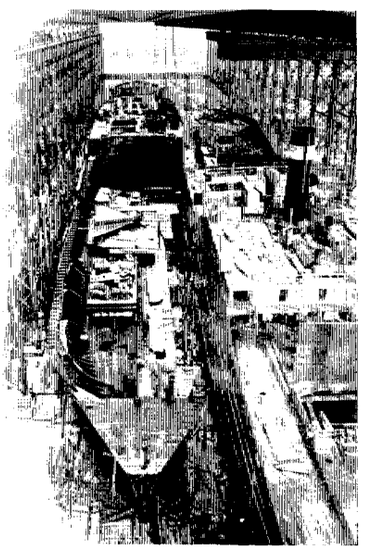
THE small picture on this page shows S.S. *Tuckahoe* under construction on the twenty-second day following keel laying and just five days previous to launching. This war record for speed in building of thirty-seven days to completion has been paralleled by the splendid service record of the *Tuckahoe* and the five other colliers of this 5,548 deadweight-ton class. Designed for coastwise trade, the *Tuckahoe* for one, also made good in the transatlantic service. The others of this class are the *Virginia*, *Jonancy* and *Bylayl*, built in 1915, and the *Freeman* and *Absecon*, built along with the *Tuckahoe* in the spring of 1918. Their dimensions are: length 333 feet, beam 49 feet, depth 28 feet and draft 22 feet. Engines of 1,800 I.H.P. develop a speed of 10½ knots.

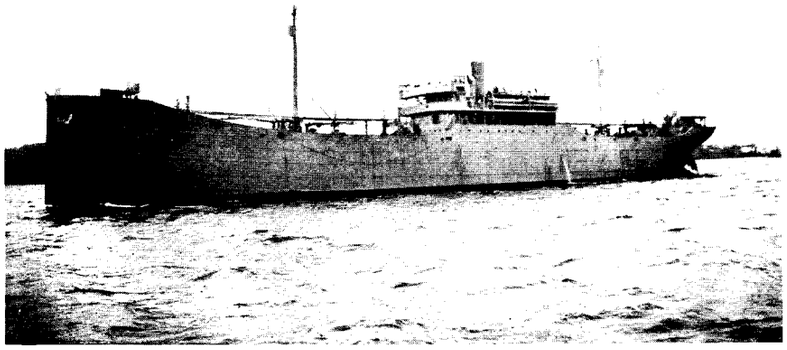


S.S. DEEPWATER

NEW YORK SHIP is proud of its achievement in the design and construction of S.S. *Deepwater*, 12,420 tons, the largest of this fleet of colliers. Of a type developed especially for deep sea service, this vessel has fully proven in service the skill of her builders. Built for the Darrow & Mann Company in 1917, the *Deepwater* was requisitioned by the Shipping Board for war service. On one voyage in the summer of 1918, this vessel steamed out of Philadelphia carrying fifty standard gauge locomotives for the A. E. F., the largest single cargo of this nature ever transported on one ship.

S.S. *Deepwater* is fitted with topside ballast tanks. She has a length of 454 feet, a beam of 64 feet, depth of 37 feet and draft of 28 feet, with engines of 3,100 I.H.P. and a speed of 10½ knots.





S.S. WM. N. PAGE

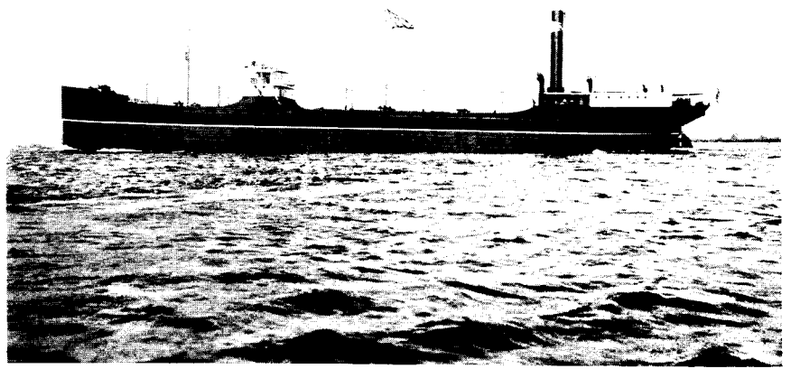
Another ship of the 395-foot class of S.S. *Franklin* and *Plymouth*, described on page twenty-four.

Built in 1918

S.S. SUFFOLK

Deadweight	7,530 tons
Length	391 feet
Beam	50 "
Depth	32 "
Draft	25 "
I. H. P.	2,170
Speed	20 knots

Built in 1911



THE collier *Wm. N. Page* shown above, differs from the *Franklin* and *Plymouth* in that, as a war measure, its cargo facilities were designed to permit also the carrying of locomotives. It was such ships as the *Wm. N. Page* and the *Deepwater*, described on the previous page, that made possible the transportation of the vast quantities of rolling stock placed in service in France by the American Army.

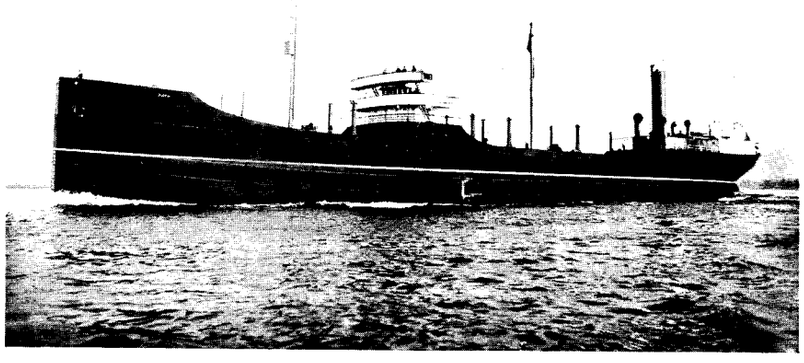
S.S. HAMPDEN

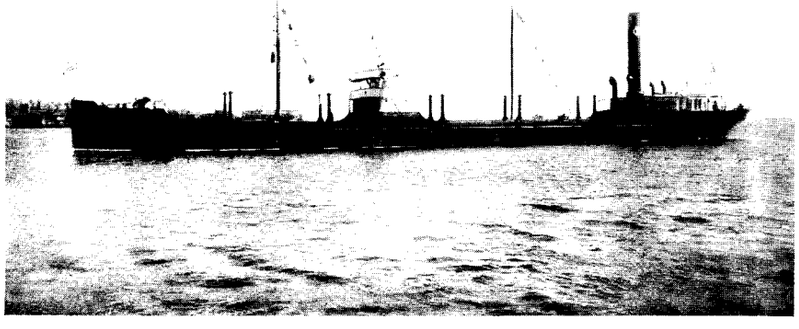
Deadweight	7,618 tons
Length	395 feet
Beam	50 "
Depth	32 "
Draft	25 "
I. H. P.	2,100
Speed	10 knots

Built in 1914

Sister ship:

S.S. *Middlesex*





S.S. COASTWISE

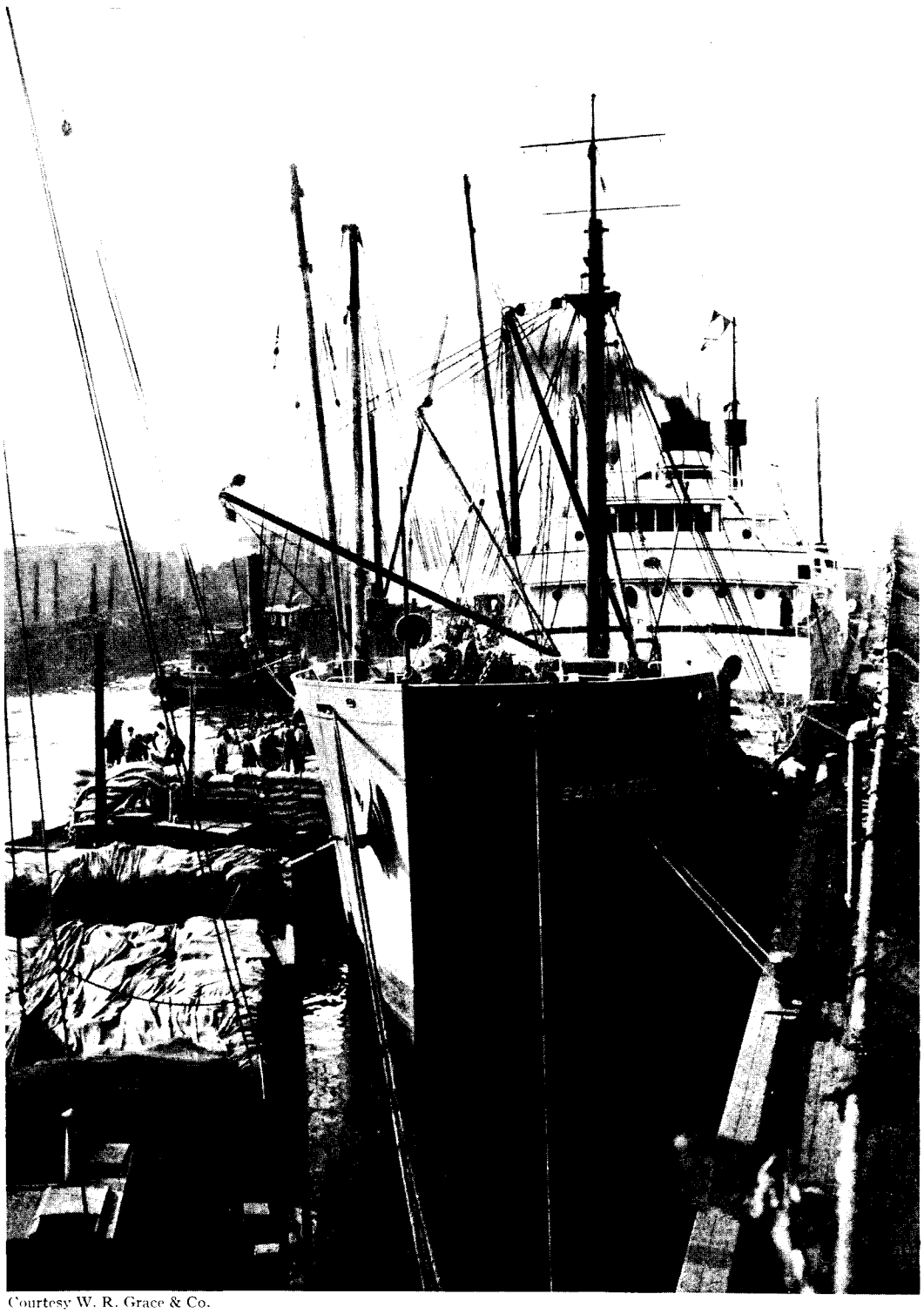
Deadweight	6,392 tons
Length	376 feet
Beam	49 "
Depth	30 "
Draft	23 "
I. H. P.	1,921
Speed	10 knots

Built in 1910

Sister ship:

S.S. *Transportation*

S.S. *Suffolk*, *Hampden* and *Coastwise* are representatives of three other classes of coastwise colliers produced by New York Shipbuilding Corporation. Economical in their operation, all of them have made excellent records, maintaining over long periods a continuous service of one round trip a week between Norfolk and Boston. All three vessels were built for the Coastwise Transportation Company, though S.S. *Coastwise* was later sold to the Cuban-Atlantic Transport Company.



Courtesy W. R. Grace & Co.

S.S. SANTA TECLA

General cargo steamer of 3,956 deadweight tons in the service of W. R. Grace & Co. Sister ship of S.S. *Mineola*, shown on page 34.

General Cargo Vessels

IN NO other field of transportation or industry is so large an investment concentrated into a single unit of operation as in a ship. Made up of many component parts dependent one upon the other, it is the old story of the strength of the individual links of a chain. To permit the possibility of frequent or unwarranted failure of any one part of the ship involves the risk of a tie-up for repairs while overhead expenses and loss of revenue go on. Make all of these links sound, and uninterrupted operation will reward the owner and confirm the skill of the builder.

It is not enough just to build ships. Their purchase is not alone a matter of first cost. Considered as a single, huge item of equipment, on their operating efficiency depends, under competition, the question of profit or loss to the operator. Cost per ton mile, repair and maintenance, speed of turn-around, adaptability to its particular trade, are all questions of current operating cost justifying the better built ship.

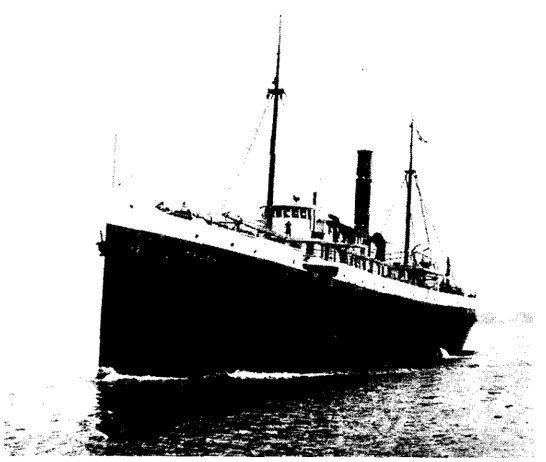
Especially in general cargo steamers must the shipbuilder have the experience and the facilities to design and produce a ship that will be economical in its operation and suitable to the particular demands of the trades in which it is to be employed.

The war-time demand for ship tonnage saw the American production of ships put upon the basis of quantity production; ready-made cargo vessels for the most part, and a concentration upon certain types to be adapted as best they might be to the immediate requirements of the transport of munitions and foodstuffs.

Under peace conditions New York Shipbuilding Corporation is able to devote to the production of general cargo vessels of the more difficult, more specialized types for particular services, its wealth of experience gained in the construction of all classes of ships.

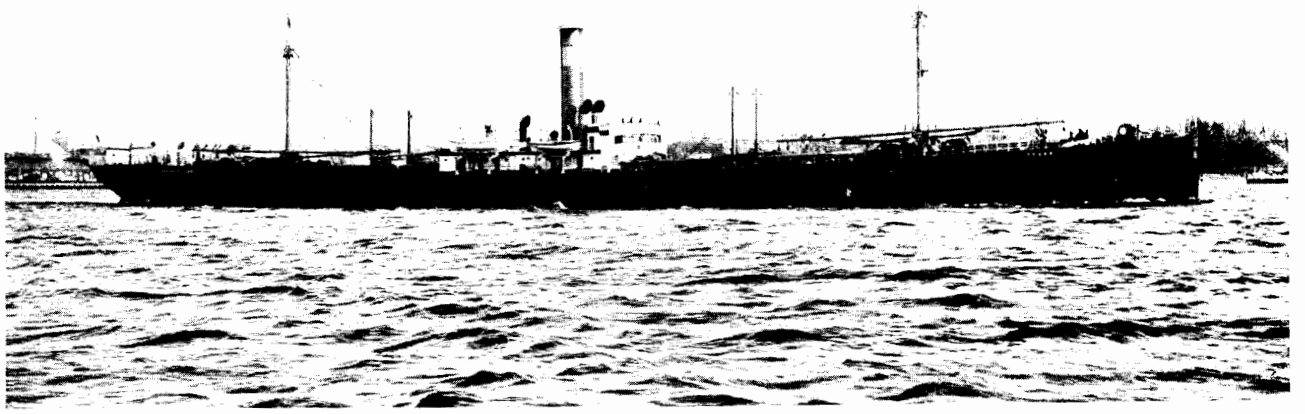
Thirteen vessels have been built at this yard of the general cargo type, beginning with the *Texan*, *Nevadan* and *Nebraskan* of the American-Hawaiian Line, and of which the most recent was the *Scottsburg* delivered to the Emergency Fleet Corporation in November, 1919. Their service records, that of the *Texan* for example, have brought to the builders the highest credit for well built ships.

These cargo carriers are of eight different classes, totaling 102,064 deadweight tons—a mile of ships. S.S. *Champion* and *Defender*, of 12,179 deadweight tons, the *Massachusetts* and *Mississippi*, of 10,780 tons built in 1903, and the *Mineola*, 3,954 deadweight tons were all built for the Atlantic Transport Company. The *Scottsburg* is of the *Champion* class, and the *Santa Tecla*, of W. R. Grace & Co.'s fleet, is the sister ship of the *Mineola*.



S.S. TYLER

This coastwise bulk carrier, built in 1913 for the Old Dominion S.S. Co., is the smallest of the general cargo vessels delivered from this yard, having a deadweight capacity of 2,502 tons. The *Tyler*, which was sunk by a submarine on May 10, 1918, had a length of 344 feet, beam of 47 feet and draft of 17 feet. Engines were of 1,750 I.H.P. and speed twelve knots.

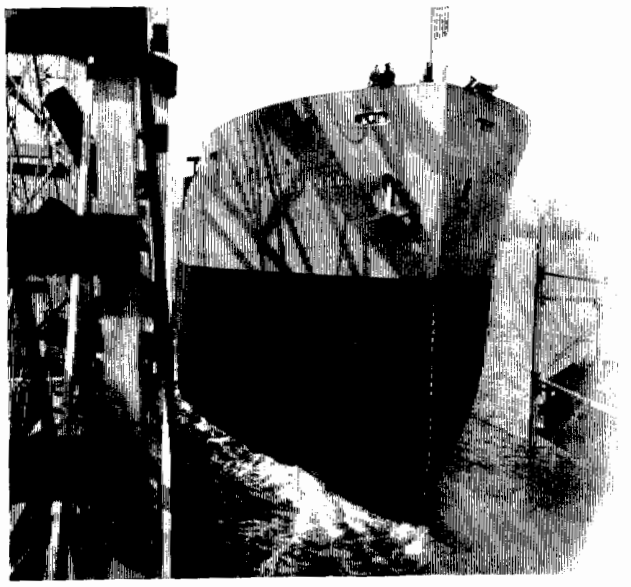


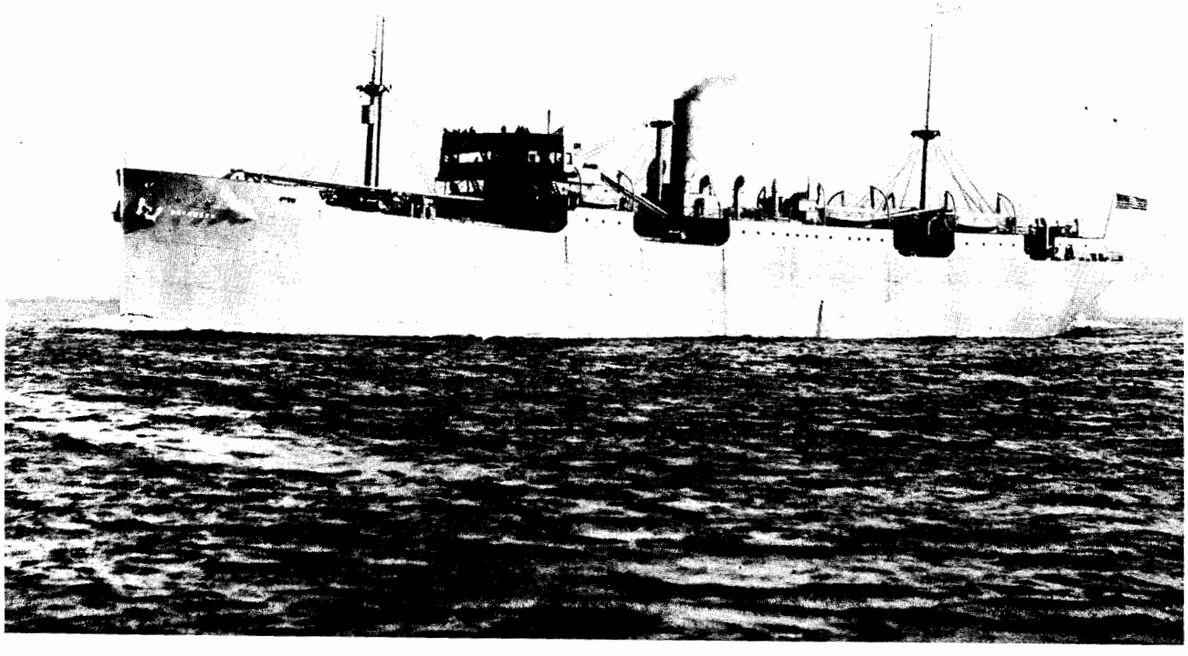
Courtesy American-Hawaiian S.S. Co.

S.S. TEXAN

BUILT in 1902, the second ship delivered from this yard, S.S. *Texan* of the American-Hawaiian Line Fleet, is still quoted as one of the most economically driven ships afloat anywhere. Before the opening of the Panama Canal she established a world's record of forty-seven days, nine hours, for the 13,129 miles between New York and San Francisco, and another record of 14,086 miles continuous steaming from Tacoma to Philadelphia.

S.S. *Texan* has a length of 484 feet, beam of 57 feet, depth of 42½ feet and draft of 29 feet, with a deadweight tonnage of 12,213, the largest general cargo steamer built at this yard. She is a coal burner with three Scotch boilers and two four-cylinder quadruple expansion engines of 3,535 I.H.P., developing a speed of 12.85 knots.

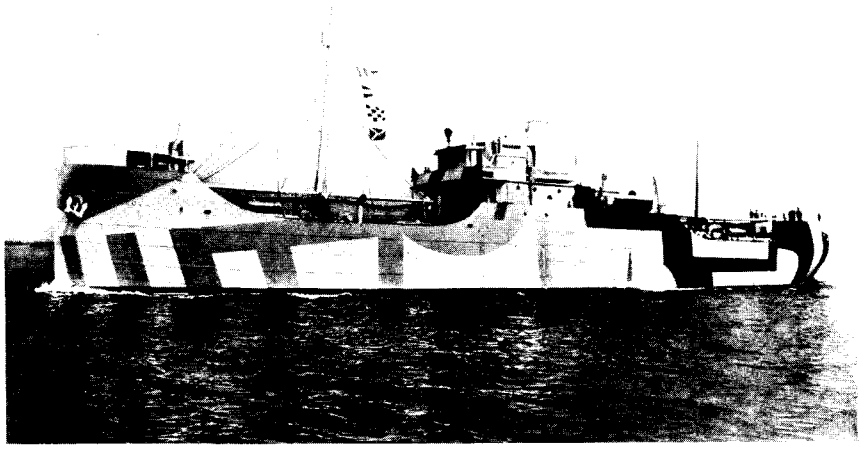




S.S. MONTANA (*ex-Defender*)

REPRESENTATIVE of a 12,179 deadweight-ton class of cargo vessel, S.S. *Montana* is one of three similar ships completed by New York Shipbuilding Corporation in 1919. This type has proven to be a useful size of general freighter especially adapted to bulky cargoes. With S.S. *Montauk* (*ex-Champion*) the *Montana* is now in the service of Atlantic Transport Company. The third of this type is S.S. *Scottsburg* which was built for the Emergency Fleet Corporation.

These ships are 436 feet long with a beam of 56 feet, depth of 41 feet, and draft of 31 feet. Oil burning, with four-cylinder quadruple expansion engines of 3,350 I.H.P., they have a speed of 11¼ knots.



S.S. MINEOLA

Deadweight	3,954 tons
Length	311 feet
Beam	40 "
Depth	26 "
Draft	21 "
I. H. P.	1,450
Speed	10 knots

Built in 1918

Sister ship:

S.S. *Santa Tecla*

S.S. MISSISSIPPI

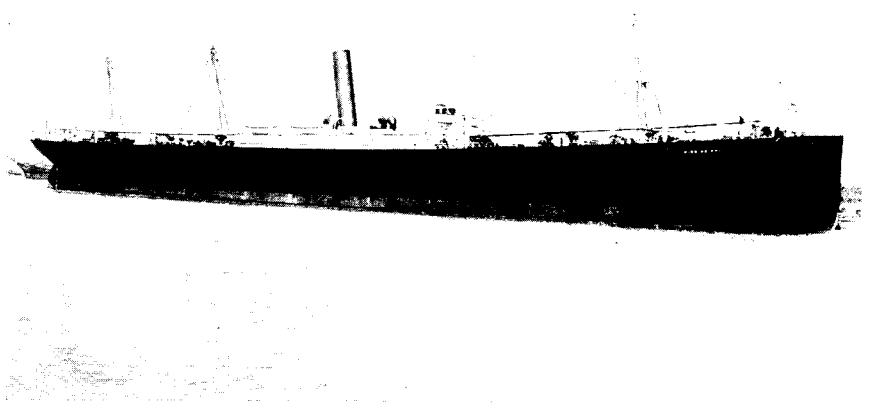
Deadweight	10,780 tons
Length	506 feet
Beam	58 "
Depth	43 "
Draft	28 "
I. H. P.	5,400
Speed	12 knots

Cattle Steamer

Built in 1903

Sister ship:

S.S. *Massachusetts*



S.S. *Mineola* operated by the Atlantic Transport Company and S.S. *Santa Tecla*, shown on page 30 in the service of W. R. Grace & Co., are two ships of a small, serviceable type of cargo carrier. Both were delivered in June, 1918.

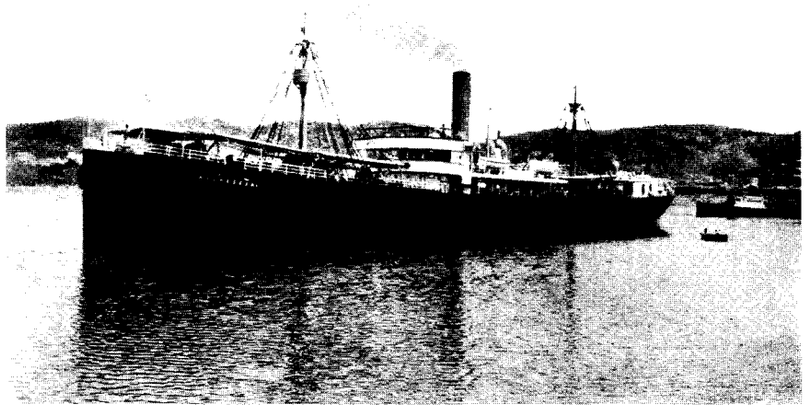
S.S. *Mississippi* and a sister ship, S.S. *Massachusetts*, of the original shelter-deck type, were built in 1903 as cattle ships, before the present extensive use of refrigerator vessels. Originally owned by the Atlantic Transport Company, the *Mississippi* was sold to the Soc. Anon. de Navigation Belge-Americaine and renamed *Samland*, and S.S. *Massachusetts* was converted into the U. S. Army Transport *Sherman*.

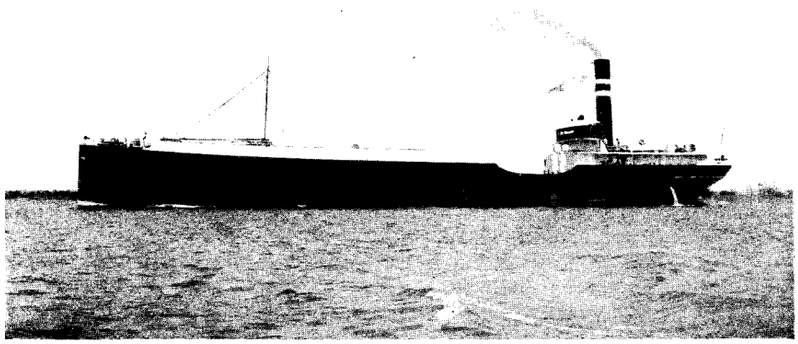
S.S. NEBRASKAN

Deadweight	5,296 tons
Length	377 feet
Beam	46 "
Depth	35 "
Draft	24 "
I. H. P.	2,230
Speed	12.8 knots

Built in 1902

Sister ship:
S.S. *Nevadan*





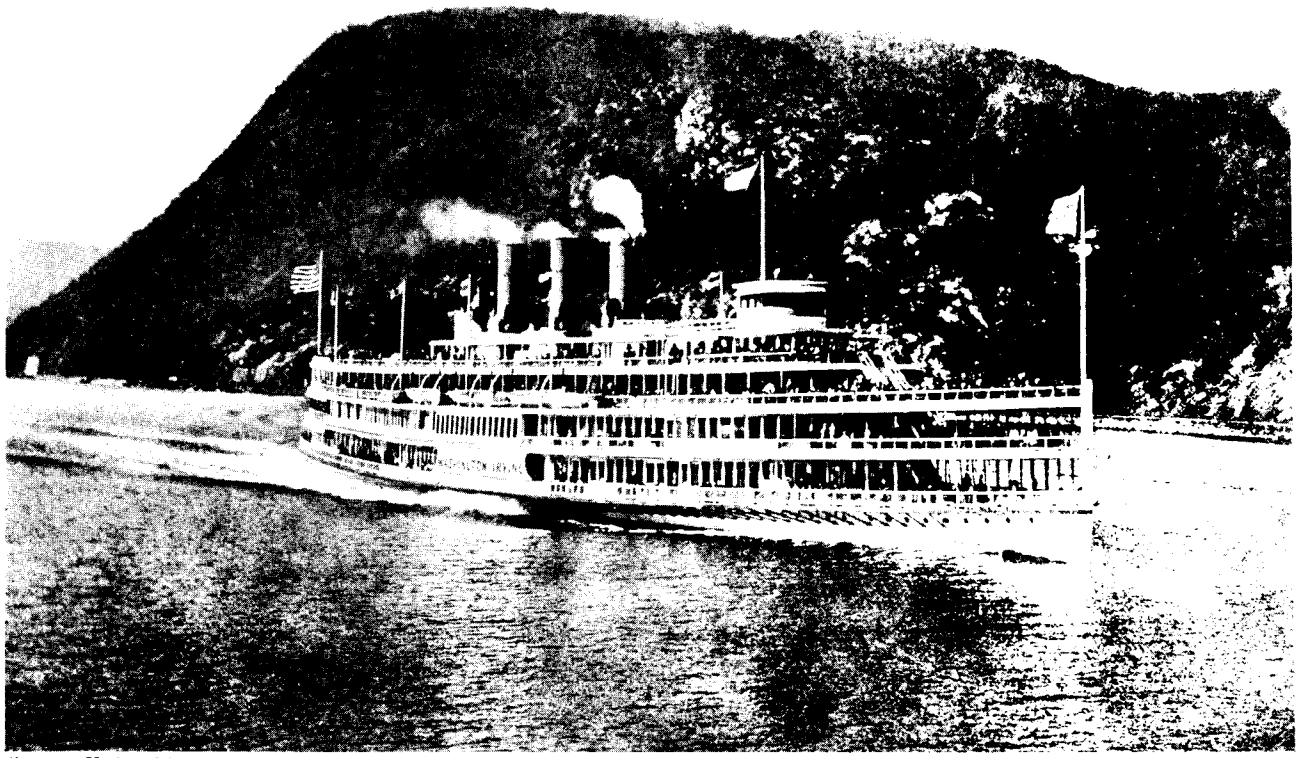
S.S. WM. J. O'BRIEN

Deadweight	5,334 tons
Length	377 feet
Beam	51 "
Depth	27 "
Draft	21 "
I. H. P.	2,150
Speed	11 knots

Lumber Steamer
Built in 1915
Lost in 1920

S.S. *Nebraskan* and a sister ship, S.S. *Nevadan*, New York Ship contracts 3 and 4, were built in 1902 for the American-Hawaiian Line. They were of the shelter-deck type, good cargo carriers, with cargo handling facilities well developed. Both vessels were sunk during the war.

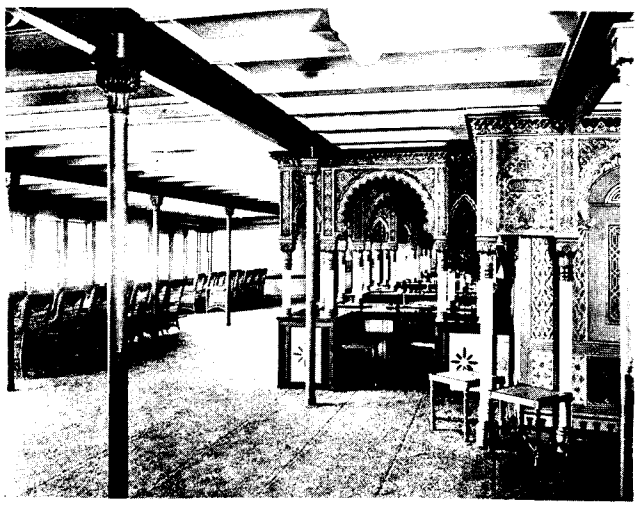
The lumber steamer *Wm. J. O'Brien* was of a special type built for a particular trade, though adaptable for use as a general freighter.



Courtesy Hudson River Day Line

S.S. WASHINGTON IRVING

FAMILIAR probably to more people than any river passenger boat in the United States is S.S. *Washington Irving*, of the Hudson River Day Line, which was built by New York Ship in 1913. This vessel has a displacement of 3,104 tons, is 414 feet long and 47 feet in beam, and carries 8,000 passengers. A particular feature of the *Washington Irving* is the detail of her interior architecture. The *Robert Fulton*, shown opposite, built in 1909, has a length of 346 feet, and a passenger capacity of 4,000.



MOORISH COURT

MAIN SALON

Miscellaneous Vessels

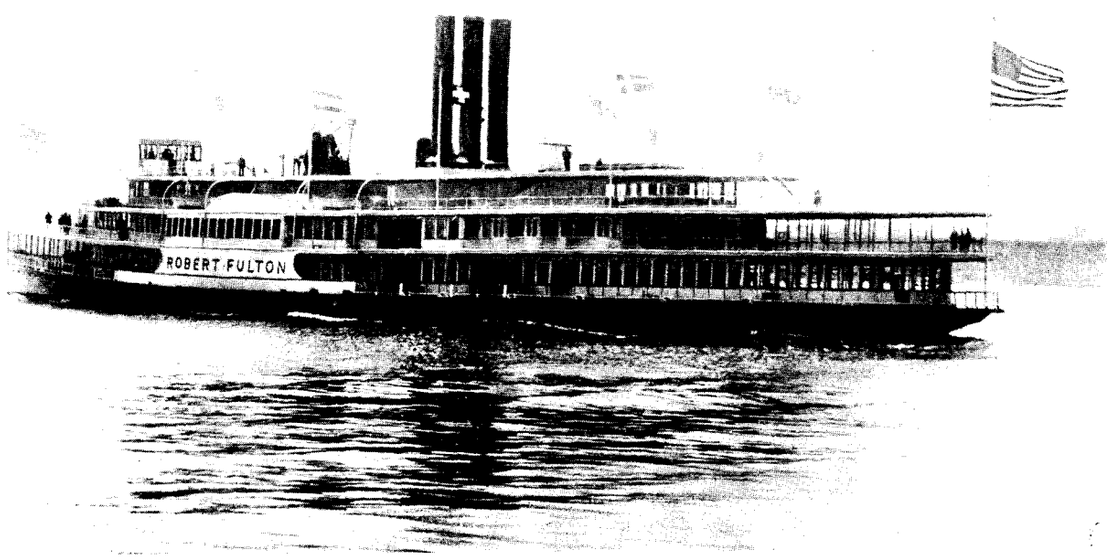
CONTRIBUTING to the diversity of shipbuilding experience gained by New York Shipbuilding Corporation during the twenty-one years of its development, are one hundred and seventeen smaller vessels of thirteen different types. Though pigmies by comparison with many of the merchant and naval vessels built here, these miscellaneous craft are important by reason of their interesting variety and the many special problems of ship construction met with in their production.

To an extent this miscellaneous tonnage represents work undertaken during the "lean" periods of shipbuilding in this country between 1905 and 1915. By reason of the ability to undertake such diversified work, New York Ship, though a newly established yard, was enabled to maintain and further develop its trained shipbuilding organization.

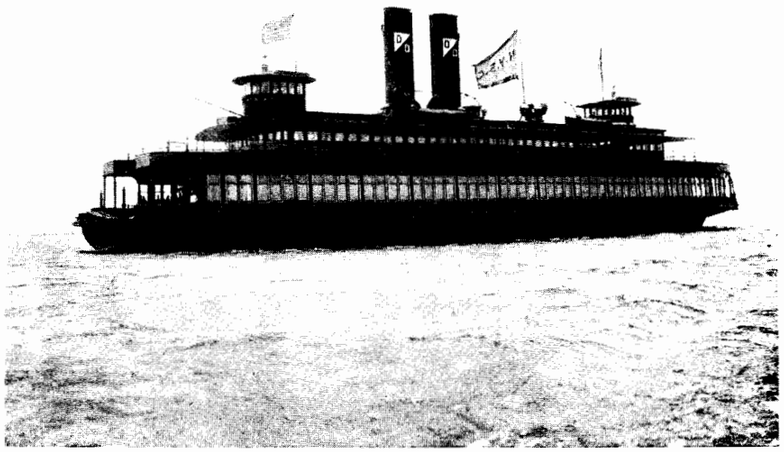
Of the vessels grouped under this classification, the most important in point of size and of outfitting, are the river passenger steamers *Washington Irving* and *Robert Fulton*, which were completed in all their detail at this yard, and the *Berkshire*, formerly the *Princeton*, of which the hull was built here.

The greatest number of any one type of craft are the steel carfloats, of which fifty-two have been built of thirteen different sizes. Thirteen coal barges and eight bulk oil barges totaling 42,751 deadweight tons, seven dredges, four ferryboats, two fire boats and two crane pontoons comprise other miscellaneous vessels built for private interests. In addition, New York Shipbuilding Corporation has produced twenty-six special vessels for government departments, consisting of ten lightships, eight lighthouse tenders, four mine planters, two revenue cutters and two sea-going tugs.

Such a wide range of shipbuilding experience, indicated by the fifty-four types and classes of vessels shown in this volume, warrants the expression frequently used with reference to New York Ship—"Builders of anything of steel that floats, from a pontoon to a superdreadnought."



S.S. ROBERT FULTON OF THE HUDSON RIVER DAY LINE



FERRYBOAT
MAYOR GAYNOR

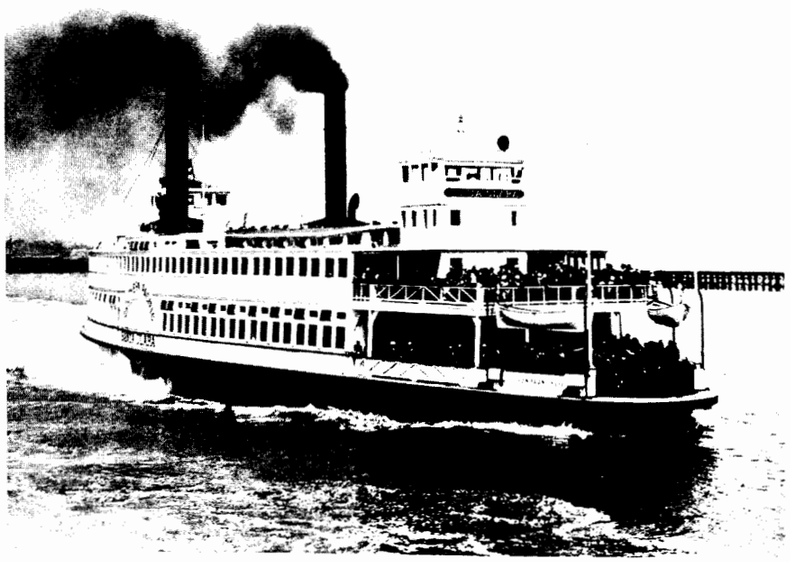
Displacement	1,393 tons
Length	231 feet
Beam	45 "
Depth	18 "
Draft	11 "
I. H. P	2,702

Passenger Capacity, 1,186
Built in 1914

FERRYBOAT SANTA CLARA

Length	292 feet
Beam	42 "
Depth	17 "

Hull built in 1911
Sister ship:
S.S. *Alameda*



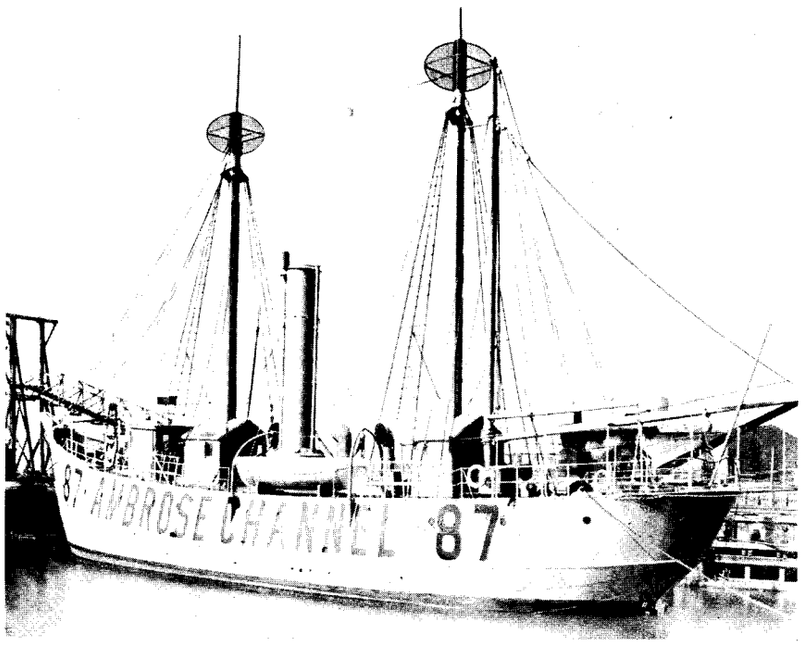
Among the miscellaneous vessels built by New York Ship are four passenger ferry boats. The *Mayor Gaynor*, built in 1914 for the City of New York is well known to those familiar with New York harbor. Another somewhat smaller ferry, is the *Hammonton*, built in 1906 for the Pennsylvania Railroad for service between Philadelphia and Camden.

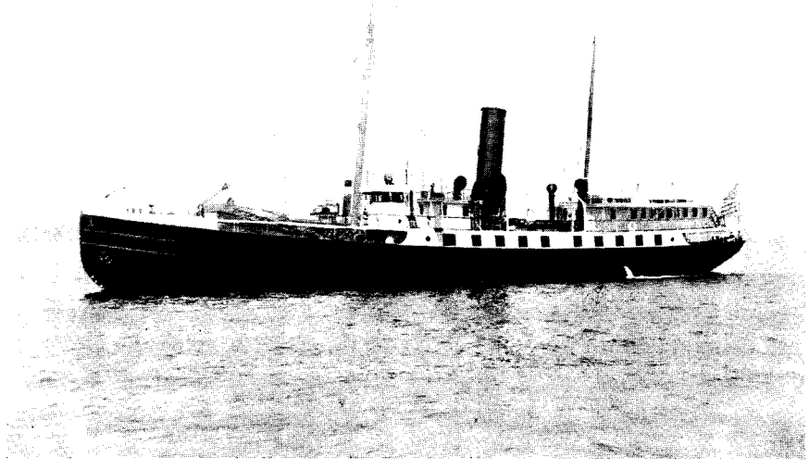
In 1911 and 1913 New York Ship built the hulls of two other ferries, the *Alameda* and the *Santa Clara* for the Southern Pacific Company. The steel for these hulls was fabricated and "bolted up," and then knocked down for shipment to San Francisco. This procedure may be considered to have been the forerunner of the extensive war-time application of the "fabricated ship" method.

LIGHTSHIP
AMBROSE CHANNEL

Displacement	660 tons
Length	136 feet
Depth	15 "
Draft	12 "

One of ten similar vessels built in 1904 and 1907.





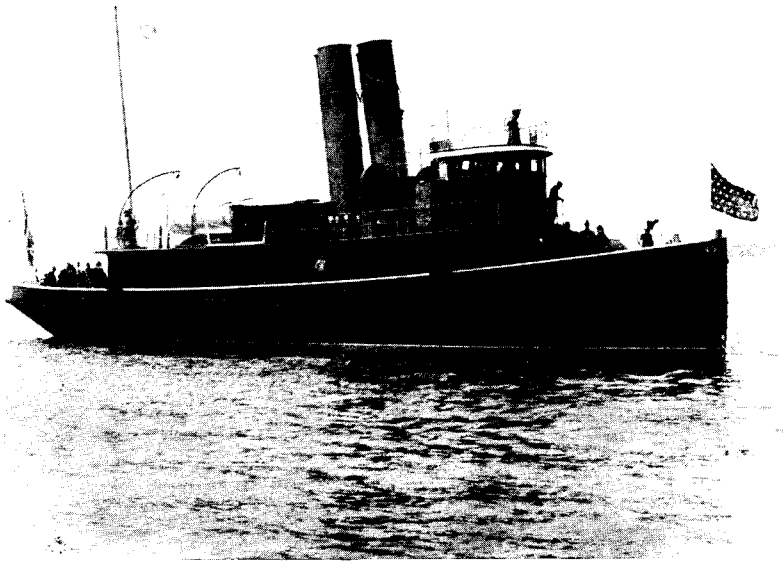
LIGHTHOUSE TENDER
MANZANITA

Displacement	888 tons
Length	190 feet
Beam	30 "
Depth	15 "

One of eight similar vessels built in 1908.

TEN lightships and eight lighthouse tenders have been built by this yard for the United States Lighthouse Board. Of the former, five were completed in 1904, having a length of 114 feet, and another five, 136 feet long, in 1907. These two classes have displacements of 475 and 660 tons, respectively.

The eight lighthouse tenders, of a type which plays such an important part in the maintenance of this essential maritime service, were built in 1908. All eight are of the same size, 888 tons displacement, 190 feet long and 30 feet in beam.

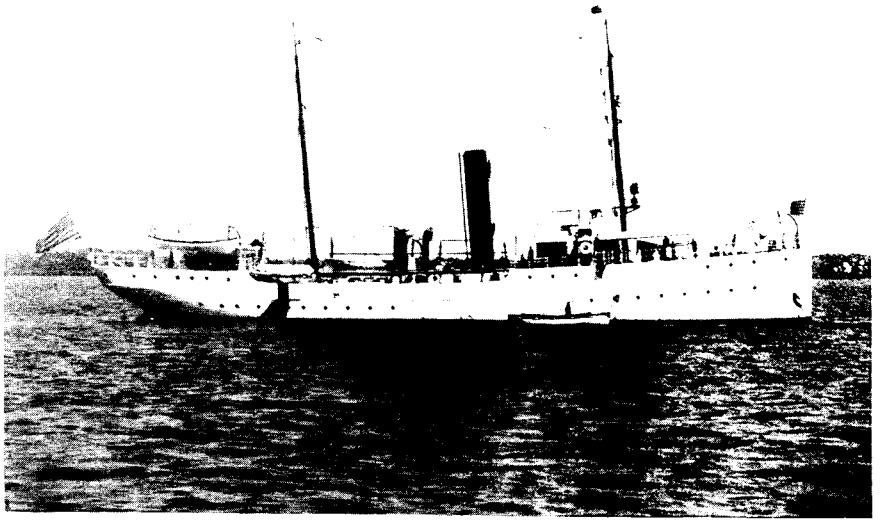


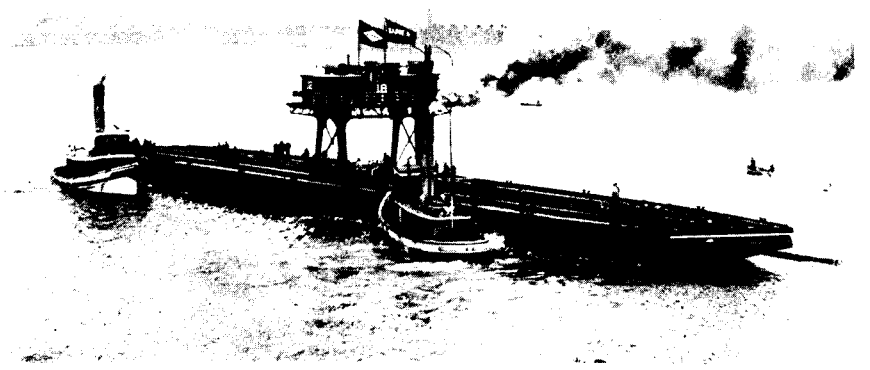
FIRE BOAT
GEO. B. MC CLELLAN

ONE of two fire boats built in 1903 and 1904 for the Fire Department of the City of New York. These boats have a length of 117 feet.

REVENUE CUTTER
YAMACRAW

THIS and a similar vessel, the *Tahoma*, were built in 1908 for the United States Revenue Cutter Service and have an excellent record. Their length is 192 feet.



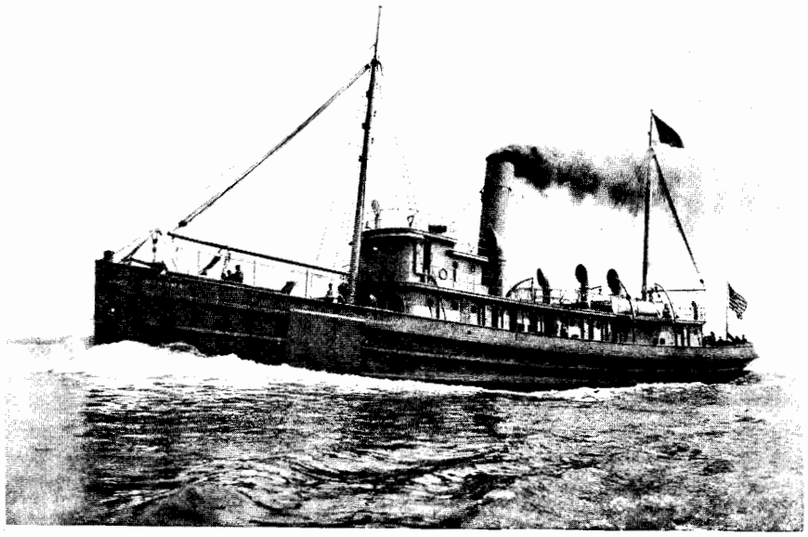


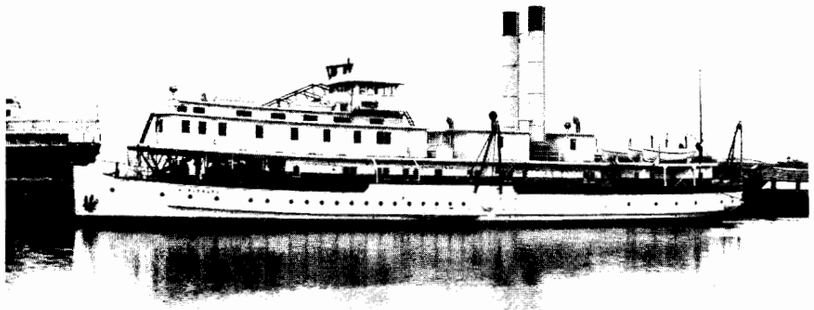
STEEL CAR FLOATS

FIFTY-TWO steel car floats of various sizes, totaling 81,425 displacement tons have been built for railroad and terminal companies, the majority for operation in New York harbor. The Car Barge shown here, in the service of the New York, Philadelphia & Norfolk Railroad, is 358 feet long and of 47 feet beam.

SEAGOING TUG SONOMA

THIS tug and another of the same class, the *Ontario*, were built in 1912 for the U. S. Navy. They have a length of 185 feet, engines of 1,920 I.H.P., and a speed of 13.6 knots.



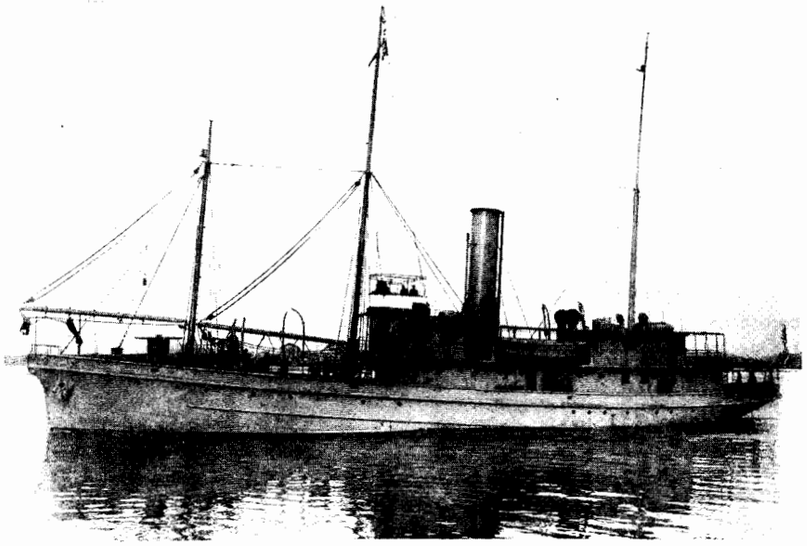


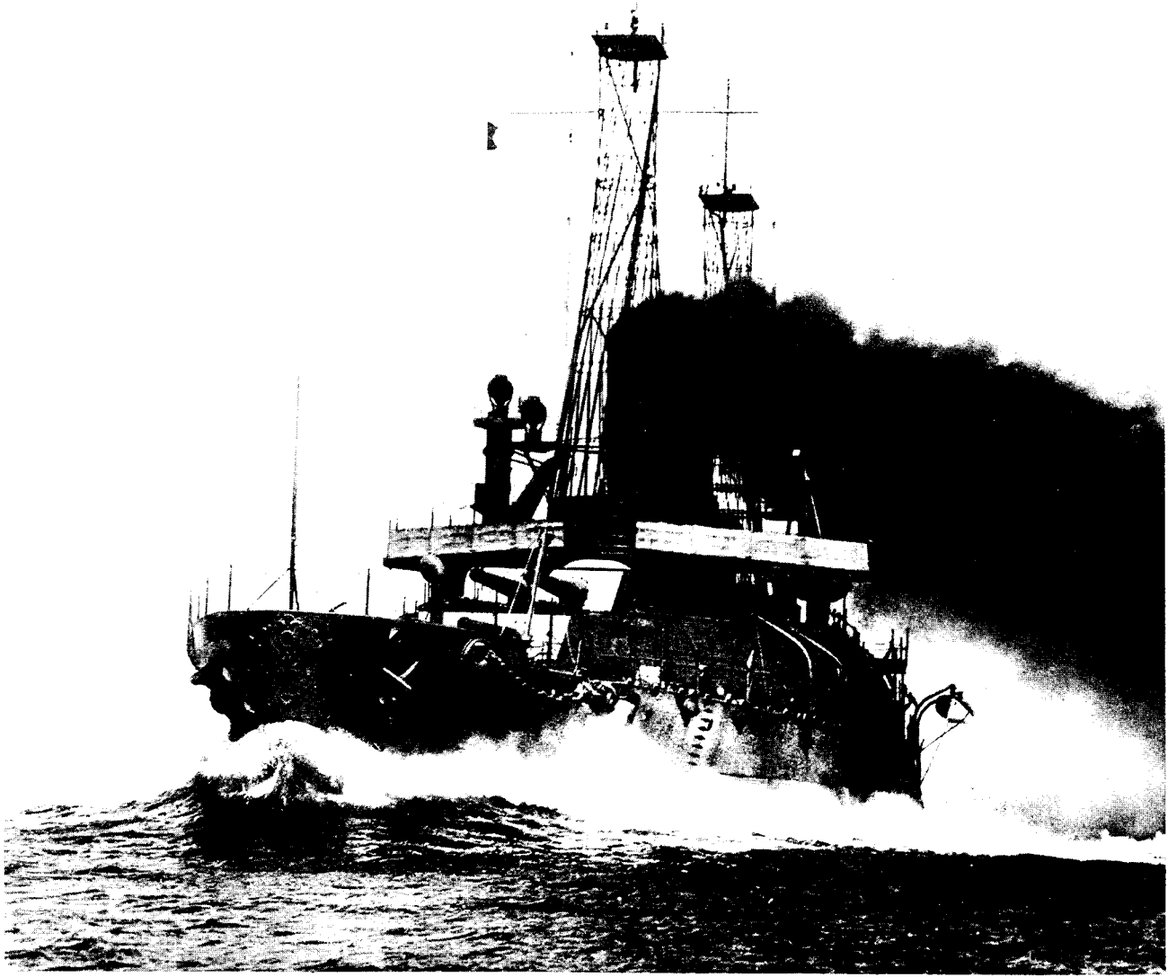
SUCTION DREDGE BARNARD

BUILT for the U. S. Army in 1904, this dredge has a capacity of 2,500 cubic yards per hour at 40 feet depth. Six other dredges have been built here.

U. S. A. MINE PLANTER GEN. WM. M. GRAHAM

THIS 172-foot mine planter was built on order from the Quartermaster's Corps, U. S. A., in 1917. It is oil burning with a speed of 13 miles per hour and has a displacement of 882 tons. Three other mine planters were built in 1909.





U.S.S. MICHIGAN

PROBABLY the most frequently quoted ship of modern times by reasons of its battery arrangement, U.S.S. *Michigan*, completed by New York Shipbuilding Corporation in 1909, was the first of our modern fleet of battleships. Designed with radically new lines for easy driving, the *Michigan*, of 16,000 displacement tons, has a length of 453 feet, a beam of 80 feet and a depth of 42 feet. A coal burner with twelve water-tube boilers and two four-cylinder triple expansion engines of 17,617 I.H.P., she has a speed of 18½ knots.

The keel of the *Michigan* was laid in December, 1906, the launching took place in May, 1908, and delivery was made in August of the following year. Her armament includes eight twelve-inch guns, and she carries a crew of eight hundred and sixty-nine.

Naval Construction

THAT thirty per cent of the battleships now in commission in the United States Navy are the product of New York Shipbuilding Corporation evidences the enviable position in naval construction achieved by this organization. From 1903, when the first naval contract was awarded, this yard has kept pace in its facilities and shipbuilding capacity with the increasing demands for more and larger war vessels. This naval construction includes cruisers, destroyers and miscellaneous vessels in addition to the battleships. Throughout this entire range of production, New York Ship has been more than able to meet the exacting requirements, the infinite detail, of these difficult types of ship construction. It has at the same time been able to contribute to the development and efficiency of the United States Navy through improved methods of construction and through maintenance of the highest standards of accuracy and craftsmanship.

The first contract was for the armored cruiser *Seattle* (ex-U.S.S. *Washington*), of 15,712 tons, the first naval vessel on which the templet system of hull construction was employed. This cruiser was followed shortly by the battleships *Kansas*, *New Hampshire*, and *Michigan* of 17,617 displacement tons, the *Utah* of 23,033 tons, U.S.S. *Arkansas* and *Oklahoma* of 27,243 and 28,415 tons respectively and, the most recent of the battleships to be delivered from this yard, the *Idaho* of 34,759 tons, which established a record as the premier ship of the Pacific Fleet.

New York Shipbuilding Corporation also has under construction for the Navy two new battleships, the *Colorado* and *Washington* of 33,590 tons, which will be driven by electricity; and U.S.S. *Saratoga*, a battle cruiser of 44,973 tons, representative of the largest type of warship.

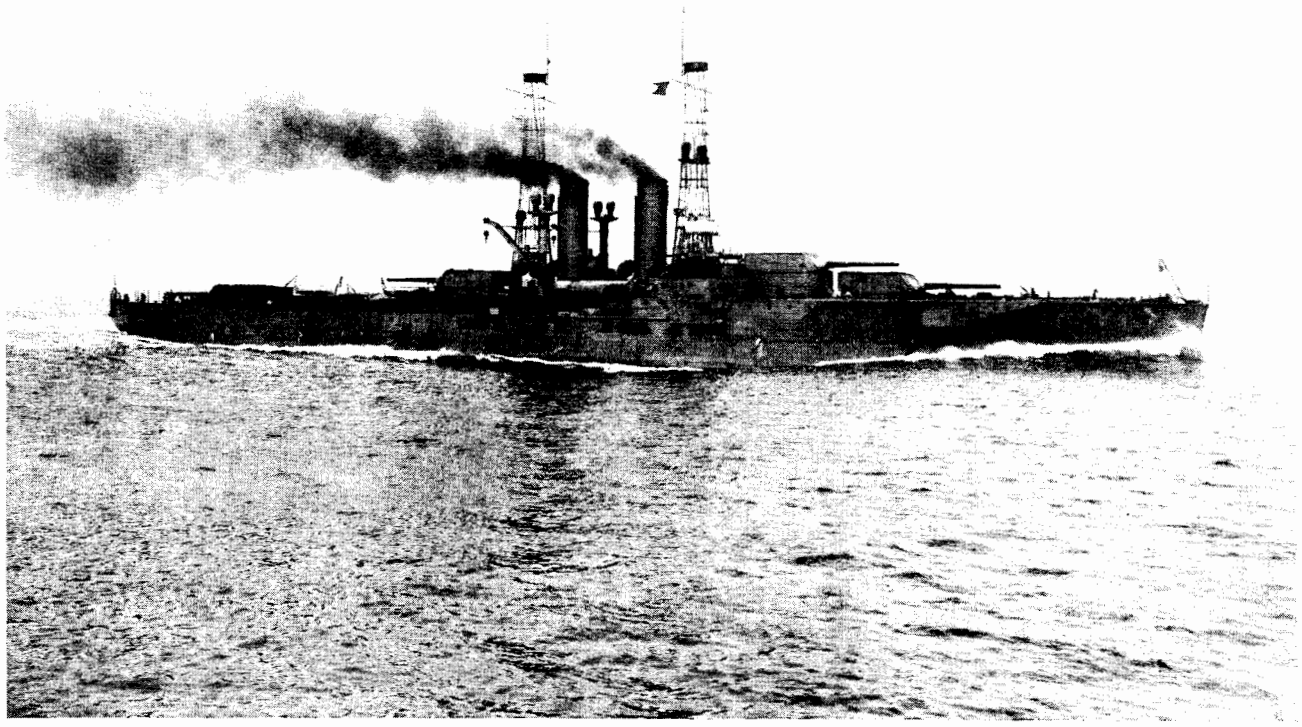
Small in size by comparison with these battleships, but large in number, important in their contribution to naval power, and intricate and exacting in the requirements of their construction, are the thirty-nine torpedo boat destroyers which New York Ship has built.

The war service record of many of these destroyers is alone an epic of valiant seamanship, of gruelling, unceasing demands upon these quick-moving, hard-hitting units of concentrated power—demands that test the skill of the shipbuilder, the care and thoroughness of his workmanship. Under these demands, this fleet of New York Ship's destroyers brought further prestige to the reputation of its builders, measuring up without exception to the highest confidence placed in it.

Other naval vessels built here include the destroyer tender *Melville* and the sea-going tugs *Sonoma* and *Ontario;* and for foreign governments the protected cruiser *Helles* of the Greek Navy, originally the *Fei Hung* ordered by the Chinese Government, and the battleship *Moreno* of the Argentine Navy.

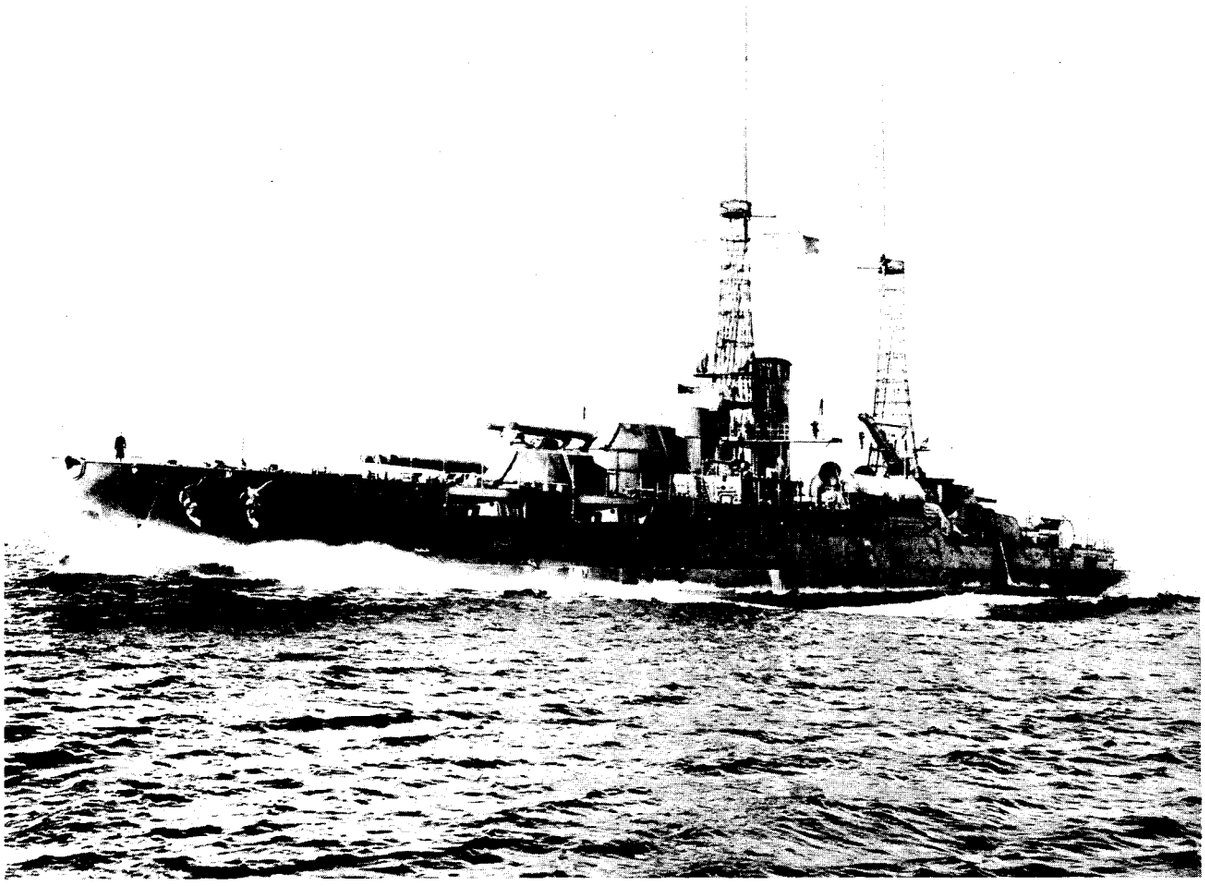
Merchant and naval construction, each on so large a scale, have each contributed to the character of workmanship and to improvements in shipbuilding methods reflected in the service rendered by the great fleet of vessels of all kinds built here. In particular, it is true that the more rigid requirements of naval practice in steel work and in machinery installation have strengthened the application of these high standards to the construction of merchant tonnage. On the other hand, the application of the templet system to large war vessels, already referred to, was the result of the departure from traditional practice in the extended use of these patterns for merchant ships, one of the principles upon which the yard was established.

It is upon the magnitude and completeness of yard facilities, the balance of ability evidenced in the character of the wide range of vessels built here, that New York Shipbuilding Corporation rests its claim to the title of the "World's Premier Shipyard."



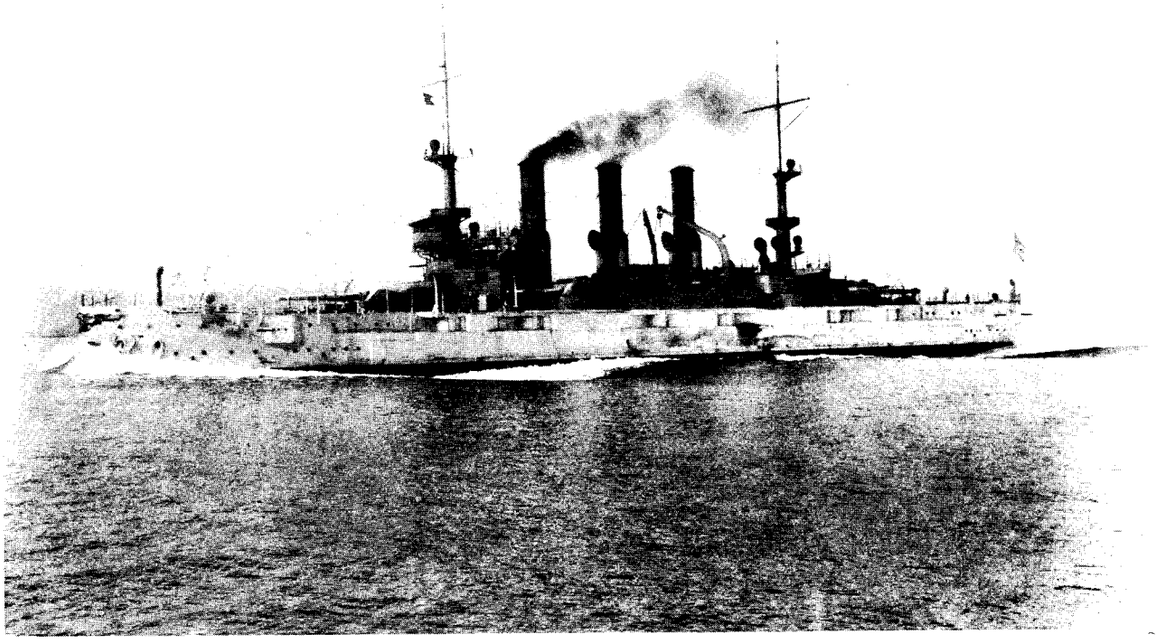
U.S.S. UTAH

A BUILDING record of thirty-three and a half months from the date of the signing of the contract, was established with the delivery of the *Utah*, on August 30, 1911. This record, and that of the *Arkansas* of 25,625 tons, also built by New York Ship, which was delivered the following year in thirty-five months, have not been bettered by any yard for ships of their size. With a displacement of 23,033 tons, the *Utah* is 521 feet long, with an 88-foot beam and a depth of 44 feet. Equipped with four Parsons turbines of 28,842 S.H.P. and with twelve coal burning, water-tube boilers, she has recorded a speed of 21.28 knots. Her armament includes ten 12-inch guns mounted in five center-line turrets. The crew numbers one thousand and two.



U.S.S. OKLAHOMA

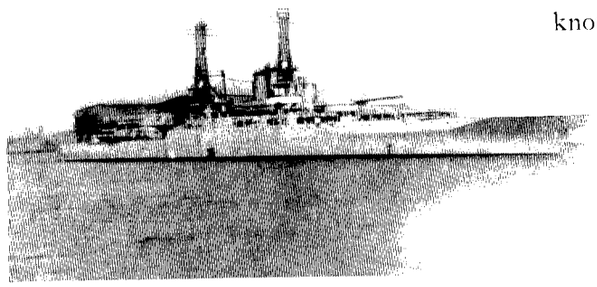
WITH the continuing development and improvement of our naval fleet, many of the vessels built at this yard mark the beginning or conclusion of some phase of naval construction. U.S.S. *Oklahoma*, of which the keel was laid in October, 1912, and delivery made in May, 1916, was the last of the reciprocating-engined battleships. At the same time it was the first of the ships to carry fourteen-inch guns. This vessel has a displacement tonnage of 28,415 and is 583 feet long, 95 feet in beam and 52 feet in depth. Two four-cylinder triple expansion engines of 24,800 I.H.P. drive her at a speed of 20.58 knots. The *Oklahoma* carries twelve of the fourteen-inch guns and a crew of nine hundred and forty-five.

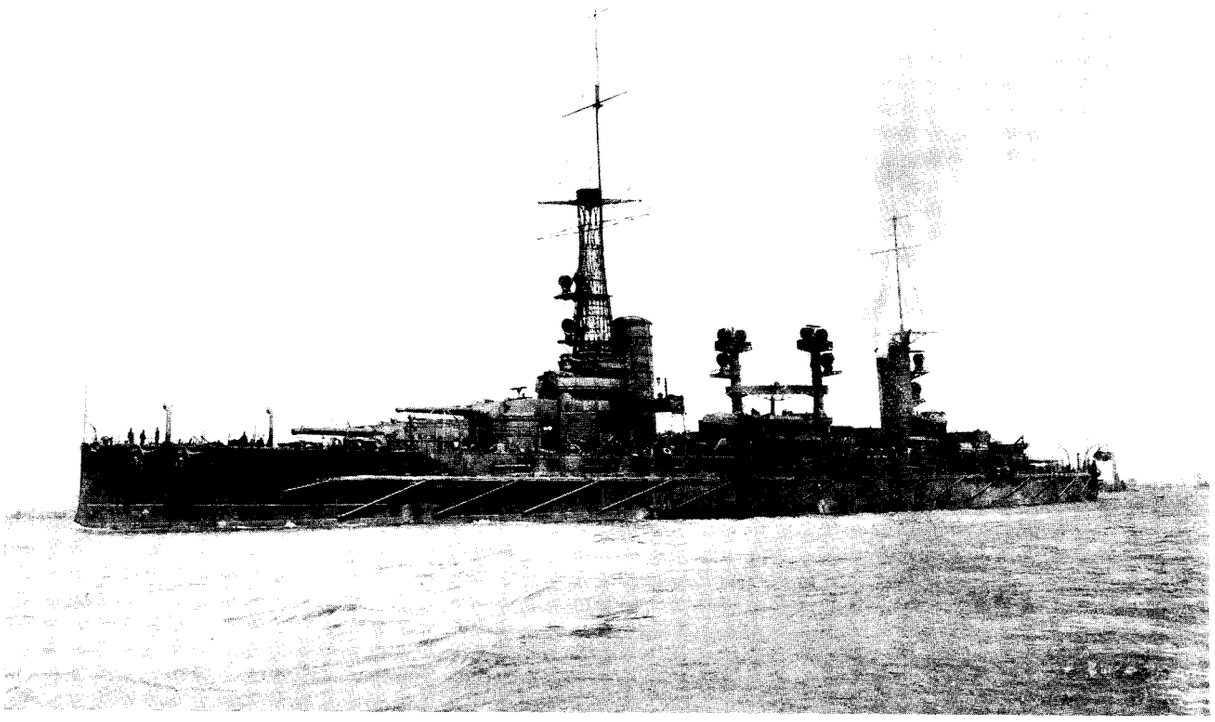


© Stebbins

U.S.S. KANSAS

THIS battleship and a sister ship, U.S.S. *New Hampshire*, the last of the pre-dreadnoughts of a type now obsolescent, were delivered in 1907 and 1908. They are of about the same size as U.S.S. *Michigan* described on page 42, which was delivered the following year, but with different lines and plan of armament. The *New Hampshire* and *Kansas*, of 17,650 tons displacement, are 456 feet long with a beam of 76 feet. The former attained a speed of 18.72 knots and the latter 18.09 knots.



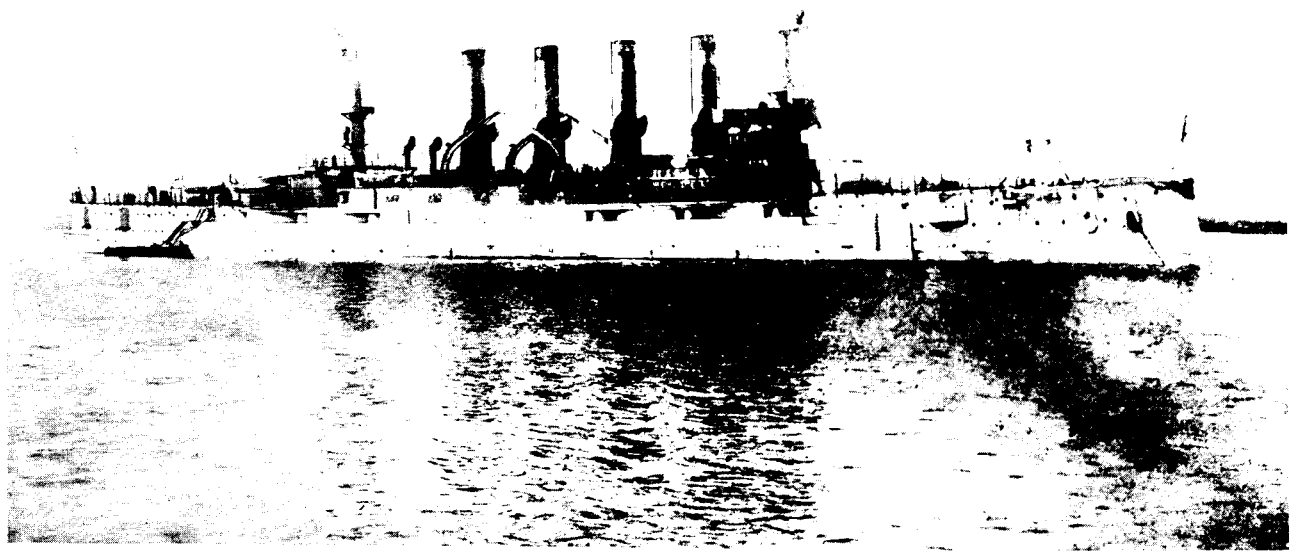


ARGENTINE BATTLESHIP MORENO

THOUGH exceeded in size by the more recent U.S.S. *Idaho* and by the three naval vessels now under construction, the *Moreno*, of 30,250 displacement tons, was, at the time of her delivery in 1915, the largest battleship that had been built here. Obtained against the competition of European yards, this contract fully established the service which New York Shipbuilding Corporation, through its extensive shipbuilding facilities and experience, is prepared to render to other countries in the production of large, specialized types of vessels.

S. S. *Moreno* is 595 feet long with a beam of 98 feet. Equipped for either coal or oil fuel, her three Curtis turbines develop 40,885 S.H.P., and at a speed of 22.5 knots.

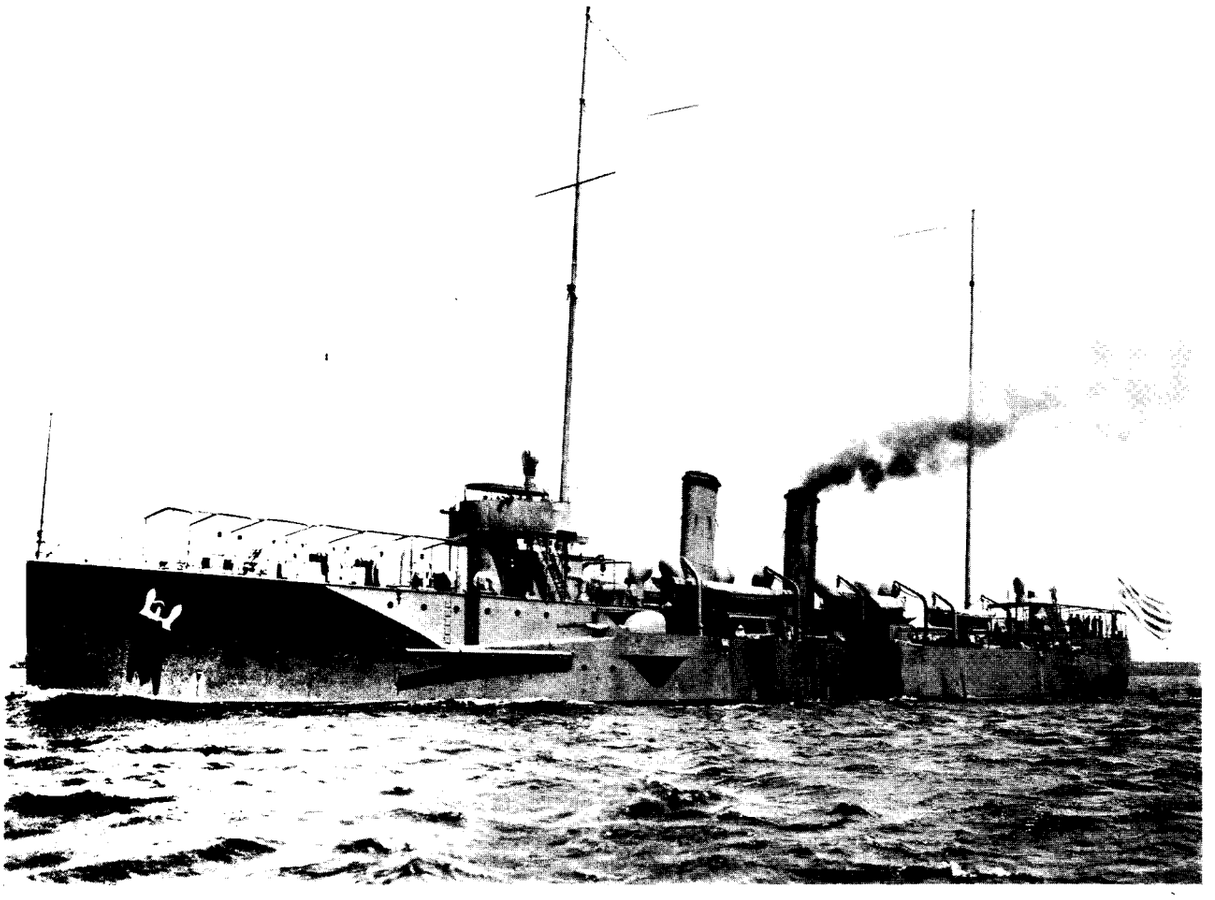
An example of the ability of New York Ship to execute the most detailed requirements of decoration and appointments is the Admiral's reception room on the *Moreno*, shown here.



U.S.S. CRUISER SEATTLE (ex-*Washington*)

THIS cruiser, the first naval contract awarded New York Ship, was but the forerunner of a great line of fighting ships for which the yard has become famous. With its competitors arguing then that New York Ship was a new and untried yard, and despite many expressions of doubt in the ability of this new yard to do the work properly and promptly, one of two contracts for armored cruisers was awarded to it in March, 1903. Both of these cruisers were delivered in 1906, well within contract time, a performance not before attained by the older yards engaged in naval construction and generally credited to the vigorous competition inaugurated by New York Ship.

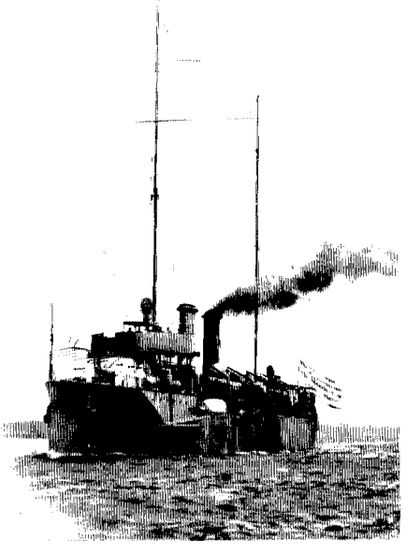
The *Washington*, now named *Seattle*, is of the pre-dreadnought type of armored cruiser, of 15,712 tons displacement, with a length of 504 feet, beam of 72 feet and speed of 22.27 knots.

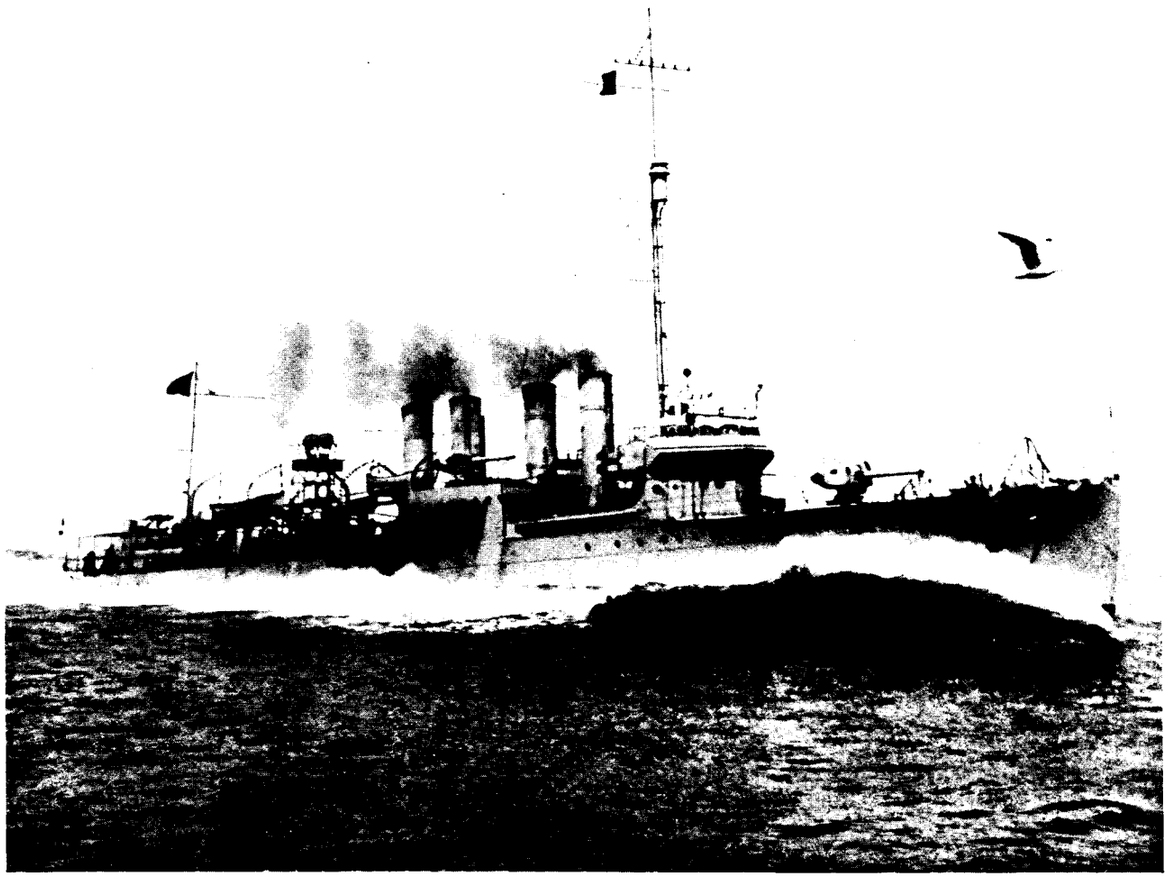


GREEK CRUISER HELLES

THIS is a small protected cruiser of a design developed by New York Ship, which has proved to be of a very useful type. She was originally laid down as the *Fei Hung* for the Chinese Navy, but was sold while under construction to the Government of Greece and renamed *Helles*. This contract was completed in June, 1914.

The *Helles*, of 2,730 displacement tons, is 322 feet long with a beam of 39 feet. Three Thorneycroft express watertube boilers, burning either coal or oil and three Parsons turbines of 7,490 S.H.P. drive her at 20.3 knots.



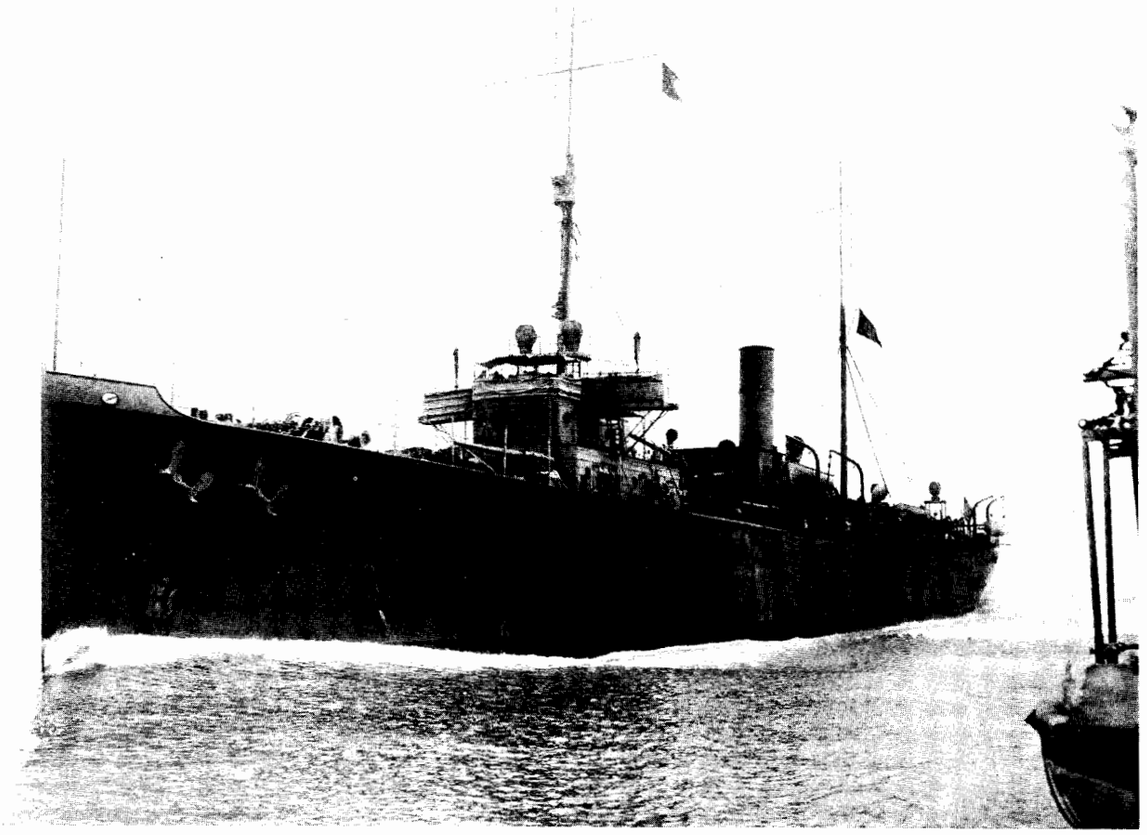


U.S.T.B.D. BROOKS

PRIOR to the World War, New York Shipbuilding Corporation had constructed for the United States Navy nine torpedo boat destroyers, of three different classes, and a destroyer tender, or "mother ship," the *Melville*. The performance of these vessels had established the reputation of the yard for this class of ship construction, and paved the way for a much more extensive destroyer-building program to meet war demands.

A few months after the entrance of the United States into the war, New York Ship, which was then rapidly completing the battleship *Idaho*, received instructions to suspend work on this huge fighting unit and to concentrate on the building of ten torpedo boat destroyers. For America had learned quickly that the destroyer was the best U-boat fighter and the most efficient convoy for transports.

A few weeks later a supplementary order for twenty more destroyers was received. When the yard answered that its greatly expanded capacity was already congested with previous Navy and Shipping Board orders, the Navy Department authorized New York Ship to begin at once the construction of a separate destroyer-building unit of ten ways with appurtenant shops and outfitting basin.

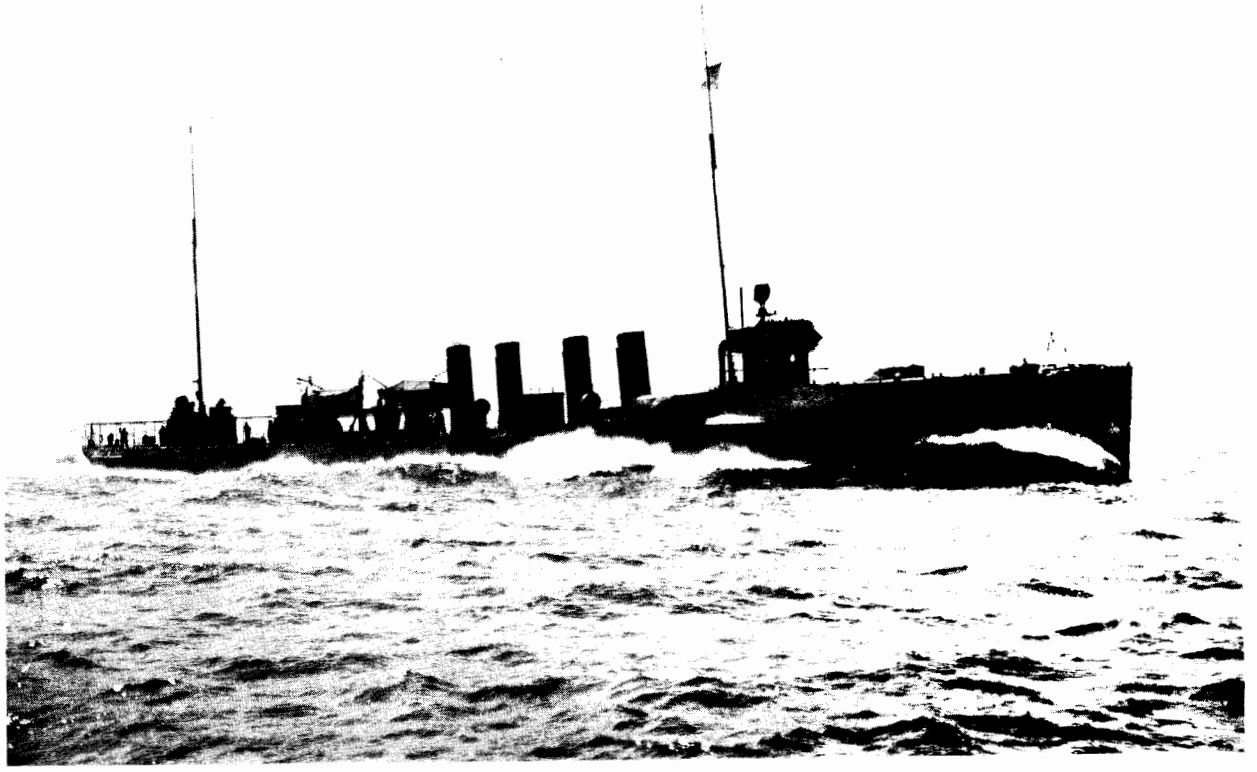


U.S. DESTROYER TENDER MELVILLE

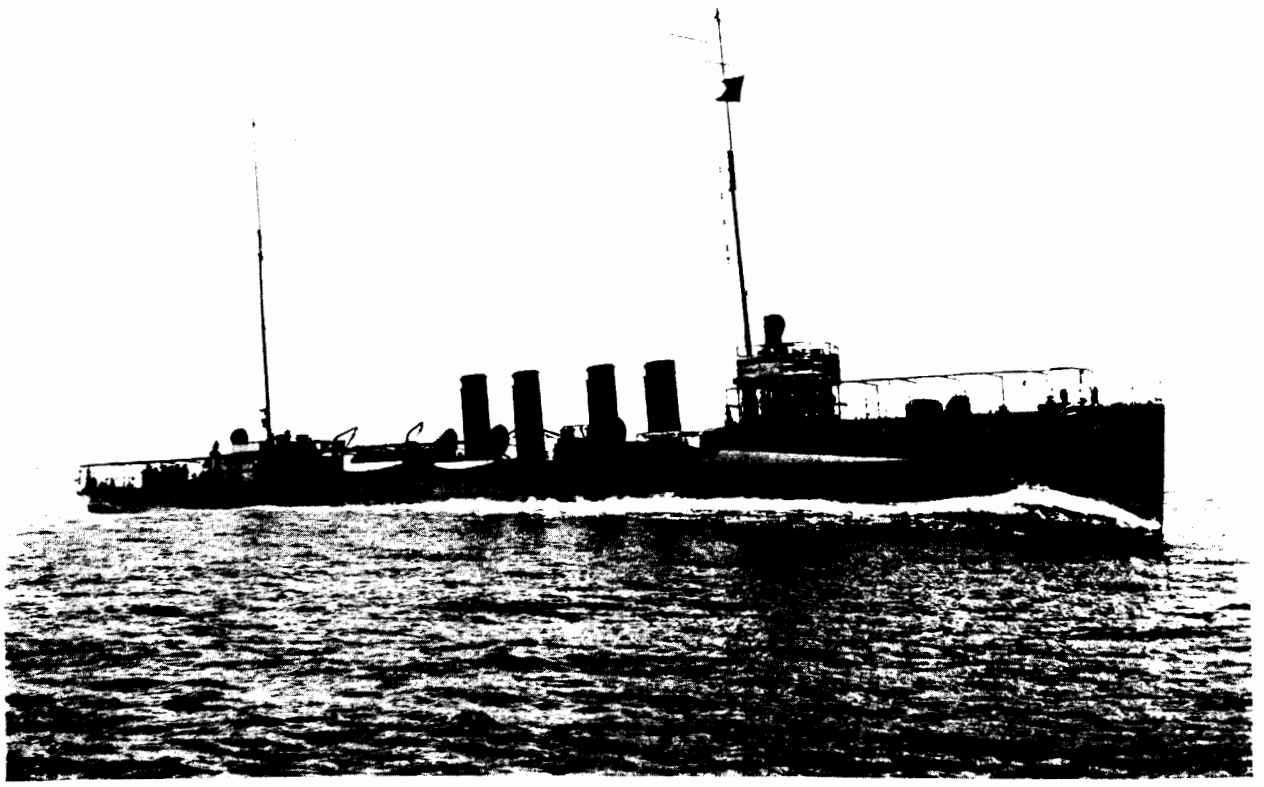
INTO destroyer design go two sets of forces which are almost mutually exclusive; on the one hand there is the restriction of size and weight; on the other hand the importance of speed and offensive power—over 1,022,000 H.P. in 39 vessels aggregating only 52,845 displacement tons. The conciliation of these opposing forces in the production of a successful destroyer calls for the highest skill and the most exacting workmanship on the part of the shipbuilder.

Eight of the first ten of the New York Ship war-time destroyers were built on ways already in service; the other two, and the next twenty of a slightly larger type, were constructed in the new destroyer yard which had been put into operation in record time. As these destroyers were completed they were rushed into a round of gruelling service—thorough test of the upstanding character of their construction.

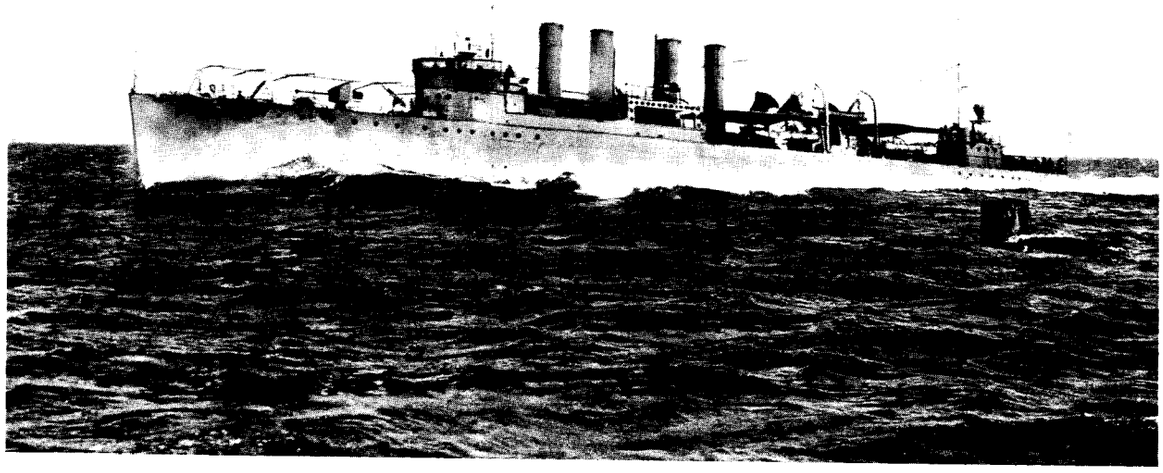
It was on the basis of performances such as those made by the destroyers built at this yard, that the Allied navies soon learned that the American destroyer could be depended upon to patrol the stormy waters around the British Isles, and to make its rendezvous with a convoy five hundred miles out in any kind of weather, averaging two-thirds of its time on active duty away from its base.



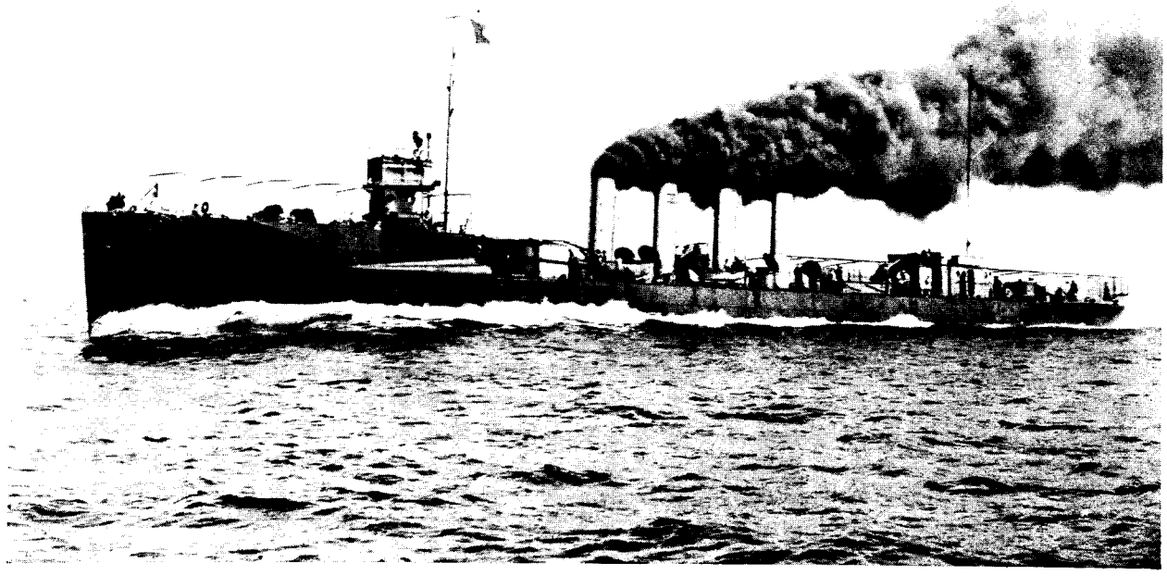
U.S.T.B.D. WAINWRIGHT—1270 DISPL. TON CLASS



U.S.T.B.D. ERICSSON—1230 DISPL. TON CLASS



U.S.T.B.D. BABBITT—1373 DISPL. TON CLASS



U.S.T.B.D. JARVIS—949 DISPL. TON CLASS

U.S.S. COLORADO UNDER CONSTRUCTION

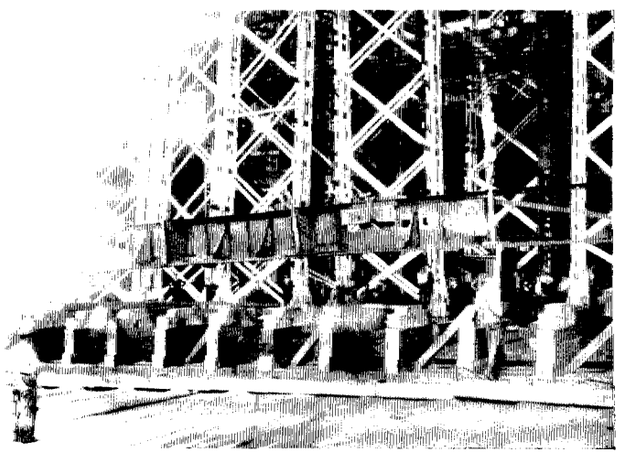
SUPERDREADNOUGHTS of the most powerful type, and the first to embody fully the experience gained in the naval operations of the World War, U.S.S. *Colorado* and *Washington*, now under construction by New York Shipbuilding Corporation, are two of four sister ships whose construction was authorized in 1916. Concentration upon other naval and merchant ships during the war necessitated laying aside work on these two units until May and June, 1919, when their keels were laid. The *Colorado* was launched in March, 1921.

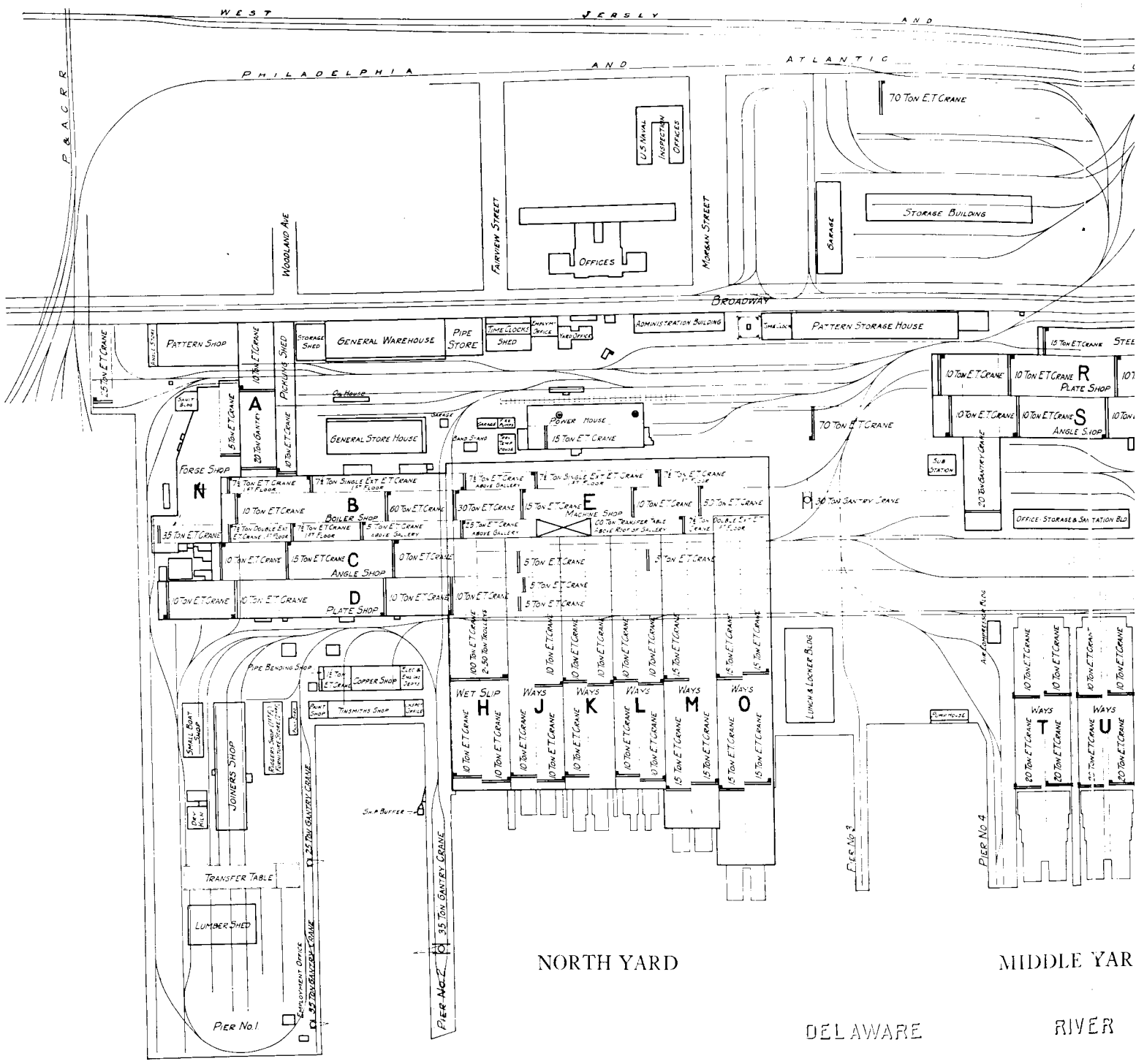
These battleships have a length of 624 feet, an extreme breadth of 97 feet and a depth of 47 feet. Their displacement of 33,590 tons is exceeded only by the 44,973-ton battle cruiser *Saratoga*, also under construction here. Propulsion is by four propellers each driven by a separate electric motor of approximately 7,000 H.P. Electrical energy will be supplied by two turbo-generator sets for which steam is furnished by eight oil-burning water-tube boilers. Extensive watertight subdivision of the hull supplements the protection afforded by the heavy armor plating.

The main battery of these huge fighting craft will consist of eight 16-inch, 45-calibre, breach-loading rifles mounted in four turrets, each rifle over sixty feet in length, with a secondary battery of fourteen 5-inch rapid fire guns.

AN INDEX of the tremendous size of the United States Battle Cruiser *Saratoga*, under construction at New York Ship, is the power plant with which she will be equipped. If, for example, the *Saratoga* should steam into Boston Harbor and her generators should be connected with the electric circuits of that city, the 181,000 H.P. of these generators would furnish sufficient electrical power to light the city, run all of the street railway systems and supply all other needs for electricity. This huge power plant, consisting of twenty watertube boilers, four main turbines and eight generators, will supply current for the electric drive of the four propeller shafts, and provide a speed of 33.6 knots for this 44,973-ton vessel.

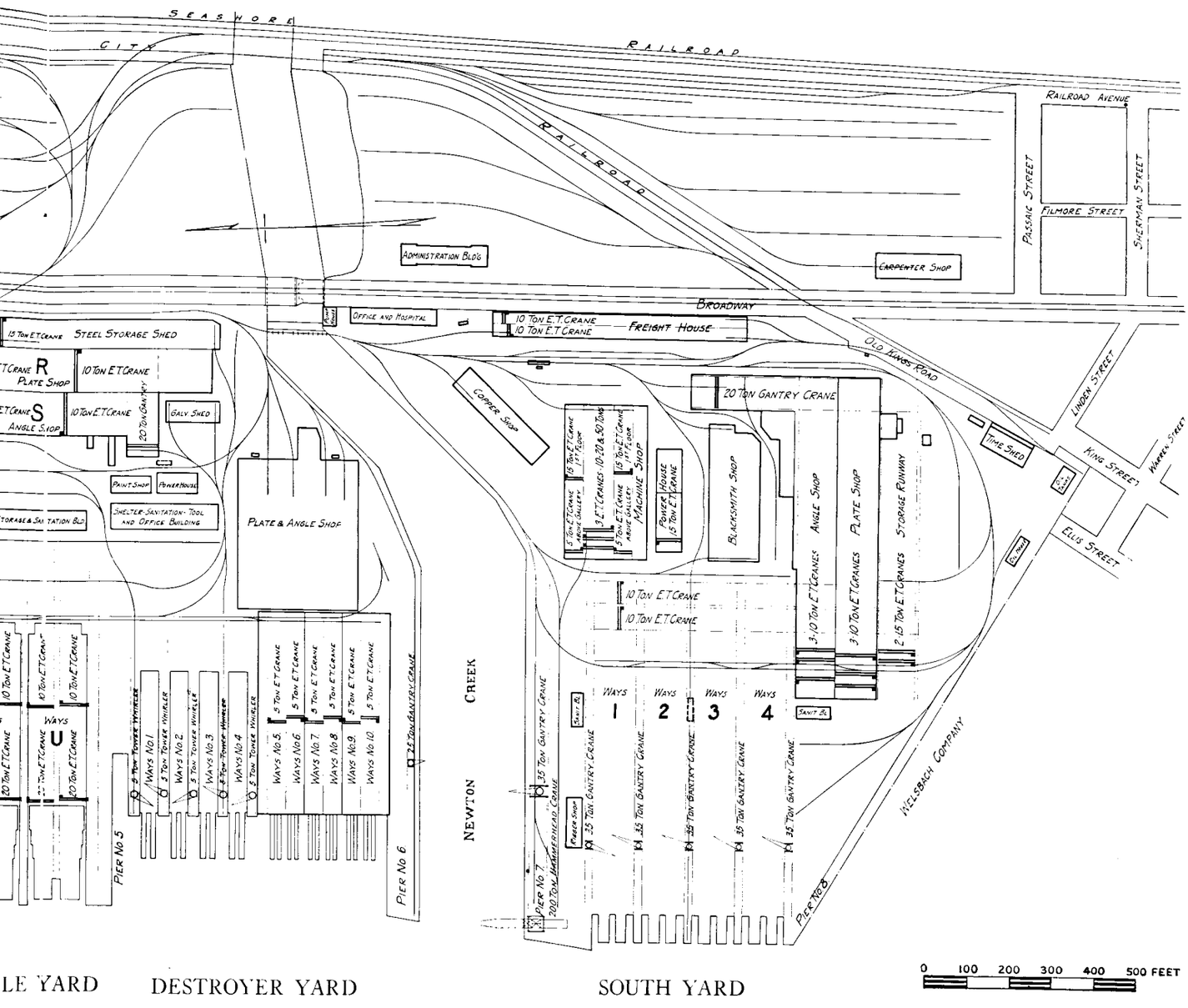
The *Saratoga*, of which the keel was laid on September 25, 1920, on the longest of the covered ways, will have a length of 874 feet, with a beam of 105 feet, depth of 56 feet and draft of 31 feet. Her armament includes eight 16-inch guns, and she will carry a crew of 1,165. This battle cruiser is one of six, authorized in 1917, which are being placed under construction in government and private yards, and are the largest and most powerful type of fighting craft ever built.





NEW YORK SHIPBUILDING CORPORATION's plant is the largest and most comprehensive unit in America's shipbuilding strength. With shipway capacity for twenty-eight vessels at one time, together with ample outfitting basins and complete shop and storage facilities, it ranks with the largest plants in the Old World. At one period during the peak of wartime production, the yard was actively at work on no less than forty-three ships on the ways and in the outfitting basins.

From left to right along the water front, as shown on the above plan of the yard, are two of the largest outfitting piers and the main covered unit which consists of a wet slip and five double ways; then the Middle Yard comprising four single ways capable of development into two huge single ways for the construction of ships up to 1,000 feet in length; beyond them the Navy Department's destroyer-building unit with four open and six covered ways; and, lastly, across Newton Creek which has been developed into an outfitting basin, the four large single ways which constitute the South Yard. Back of the ways and



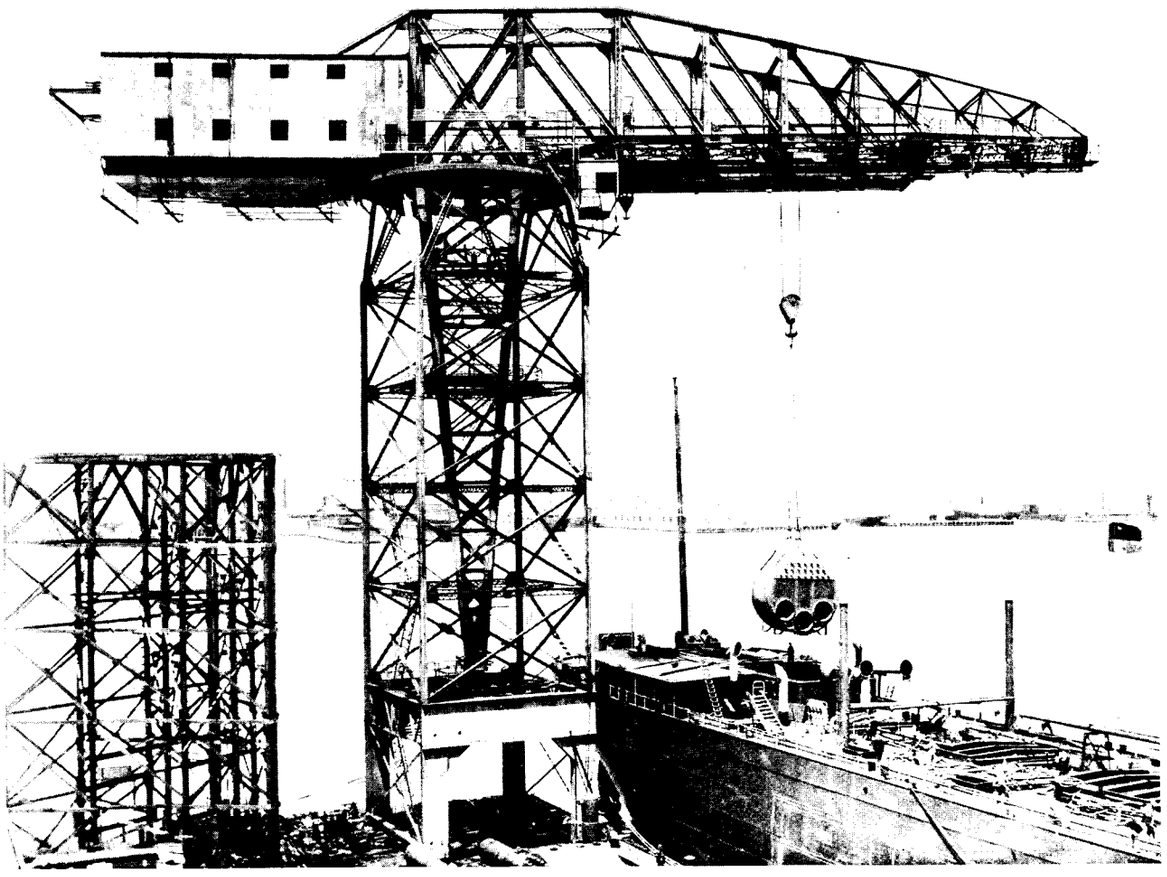
LE YARD DESTROYER YARD SOUTH YARD

RIVER

the outfitting piers are the various shops where the steel for the ships is forged and fabricated, the boilers and engines are built, and the joiner work prepared; and still further back are the storage yards.

Tying the whole plant together and assuring an uninterrupted flow of material through the shops and into the ships are the most complete track and crane systems ever developed in any yard. The trackage, all of standard gauge, totals fifteen miles. There are 115 cranes, varying in size from those with a capacity of 1½ tons in the smaller shops through the 35-ton gantries on the outfitting piers, and the 80-ton overhead traveling cranes in the storage yards to the 100-ton overhead crane which serves the wet slip and five covered ways in the main group. Completing these crane facilities is the 200-ton hammerhead crane for lifting into the ships the boilers, engines, turret housings, guns and other especially heavy units.

With the comprehensive facilities of such a completely self-contained yard at its command, New York Ship will be able to serve the most pressing demands for ship construction that can now be anticipated.



200-TON HAMMERHEAD CRANE

MIGHTIEST in any private shipyard of the United States, this 200-ton hammerhead crane has recently been erected at the end of one of the outfitting piers of the South yard where it will be used for the installation of heavy machinery and boilers in merchant vessels and of armament in warships. For example, the 16-inch guns for the two battleships will weigh 116 tons each, and the machinery and armament of the battle cruiser *Saratoga* will make even greater demands on the crane.

This hammerhead crane has a rated lifting and rotating capacity of 200 tons on an 85-foot radius with a clear lift of 118 feet, and a 30-ton capacity on a 125-foot radius with a lift of 126 feet. It consists of a self-supporting, stationary tower carrying a rotating mast and boom. The boom supports two main trolleys and hoists of 100 tons capacity each, or 200 tons when operated together, and an auxiliary trolley and hoist of 30 tons capacity. The operating machinery, which is electrical, is located at the rear or counterweight end of the rotating boom and is controlled from a cab close to the tower on the hoist arm.

The installation of this new unit is an example of the continual endeavor on the part of this great shipyard to provide the most modern and complete equipment for efficient ship construction, and supplements its already extensive crane facilities.

New York Shipbuilding Corporation has constructed vessels for the following Governments and Corporations

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United States Government

Navy Department

Department of Commerce
Bureau of Lighthouses

Panama Canal Commission

Treasury Department
The Coast Guard

United States Shipping Board
Emergency Fleet Corporation

War Department

Foreign Governments

Republic of Argentina

Kingdom of Greece

Empire of Japan

City of New York

Department of Docks and Ferries

Fire Department

Private Corporations

American-Hawaiian Steamship Company
Atlantic, Gulf and Pacific Company
Atlantic Transport Company
Baltimore and Ohio Railroad
Brooklyn Eastern District Terminal Company
Carpenter O'Brien Company
Chesapeake Steamship Company
Coastwise Transportation Company
Consolidated Coal Company
Darrow and Mann Company
Delaware, Lackawanna & Western Railroad Co.

Private Corporations (*Continued*)

East Coast Transportation Company
Empire Engineering Corporation
J. M. Guffey Petroleum Company
Gulf Refining Company
W. R. Grace and Company
Hudson Navigation Company
Hudson River Day Line
Lehigh Valley Railroad Company
Long Island Railroad Company
Merchants and Miners Transportation Company
Morgan's Louisiana & Texas R. R. and S. S. Co.
Munson Steamship Company
New York Central Lines
New York Engineering Company
New York, New Haven and Hartford Railroad
New York, Philadelphia and Norfolk Railroad
Old Dominion Steamship Company
Pacific Coast Steamship Company
Pacific Mail Steamship Company
Pennsylvania System
R. A. Perry Company
Petroleum Transportation Company
Pocahontas Navigation Company
Southern Pacific Company
Standard Oil Company of New Jersey
Standard Transportation Company
Texas Oil Company
United Fruit Steamship Company

Summary of Vessels Completed or Under Construction by New York Shipbuilding Corporation August 1, 1921

Type of Vessel	*Number*	*Total Tonnage*	*Total Length*	*Total Horsepower*
Passenger-and-Cargo Vessels	28	456,376 (Displ.)	13,423 Feet	233,515
Tank Steamers	31	287,533 (D.W.T)	13,315 "	86,050
Colliers	22	163,099 "	8,255 "	47,300
General Cargo Vessels	13	102,064 "	5,259 "	40,155
Naval Construction				
Battleships	10	263,931 (Displ.)	5,500 Feet	275,500
Battle Cruiser	1	44,973 "	875 "	195,600
Light Cruisers	2	18,442 "	826 "	31,140
Destroyers	39	52,845 "	12,140 "	1,022,300
Miscellaneous Naval Vessels (*a*)	4	28,671 "	1,285 "	17,175
Total Naval Vessels	56	408,862 (Displ.)	20,626 Feet	1,541,715
Miscellaneous Vessels				
River Passenger Steamers	3	6,896 (Displ.)	1,191 Feet	9,200
Ferry Boats	4	7,027 "	984 "	2,750
Car-floats	52	81,425 "	15,394 "	.....
Oil and Coal Barges	21	42,751 "	4,174 "	.....
Other Craft (*b*)	35	32,588 "	5,380 "	22,150
Total Miscellaneous Vessels	115	170,687 (Displ.)	27,123 Feet	34,100
Total of All Vessels	265	1,035,925 (Displ.) / 552,696 (D.W.T.)	(*c*) 88,001 Feet	(*d*) 1,982,835

(*a*) Includes Destroyer Tender; Fuel Ship, Imperial Japanese Navy; and 2 Seagoing Tugs.

(*b*) Includes 10 Lightships, 8 Lighthouse Tenders, 2 Fireboats, 2 Revenue Cutters, 7 Dredges, 4 Mine Planters and 2 Pontoons.

(*c*) This is equivalent to $16^{2}/_{3}$ miles of ships placed end to end.

(*d*) In addition, the yard has built engines for other yards totaling 19,200 H. P.

VALUABLE as was the war-time experience of the American shipyards in the strengthening of their facilities and the development of a greater body of trained shipbuilders, the three years since the signing of the Armistice have been of even greater service to the future of the shipbuilding industry in the United States. While much of the war-time growth has already been scrapped, there remains a small but strong group of shipyards, most of them veterans of pre-war days, which are in a position to supply the needs of American ship operators and, further, to serve foreign ship operators in successful competition with the Old World yards which have been faced with steadily mounting costs in labor and materials, as well as with vexatious delays due to labor unrest.

In this group New York Shipbuilding Corporation is proud to take a leading part, and with the rapid liquidation of its enormous tonnage for the Emergency Fleet Corporation it is in a position to offer private ship operators at home and abroad the skill and facilities which make possible prompt delivery of vessels designed especially to meet the particular needs of the owner; for essential as wholesale production of standardized ships is in the emergency of war-time, the practical operator knows that there is no such thing as a standardized vessel in the keen competition of a world at peace, and that the only efficient ship from his viewpoint is the one wherein the builder most successfully meets or even anticipates the particular requirements and problems of the special field in which the ship is to be operated.

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